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Chair

Mr. James Maloney

Standing Committee on Natural Resources

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[English]

• (0910)

[English]

The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)): Good morning, everybody. Thank you for joining us today.

We have a fresh start today as we begin our new study on the current state and future of national energy data. It is much talked about; there's great interest in this topic. We're starting with two very important sets of witnesses from the Department of Natural Resources and the National Energy Board.

Drew Leyburne, Laura Oleson, Jim Fox, and Abha Bhargava, thank you for joining us this morning. It's probably safe to assume that some or all of you have been here before, but I'll explain the rules just in case you need a refresher. Each set of witnesses has up to 10 minutes to make a presentation, which you are free to do in either official language. In fact, you're encouraged to do it in either official language. You will almost certainly be asked questions in French and English. Following the presentations by both sets of witnesses, we're going to open the table to questions by the members around the table.

Thank you for joining us and we'll get right into it since we're running a few minutes behind.

Ms. Oleson, you look like you're ready to go, so why don't we start with you.

Ms. Laura Oleson (Director General, Energy Policy Branch, Energy Sector, Department of Natural Resources): I sure am.

[Translation]

Thank you very much, Mr. Chair, for the invitation to appear before the committee to speak to the current and future state of Canada's national energy data.

My name is Laura Oleson and I am the Director General of Energy Policy at Natural Resources Canada. I am joined by my colleague, Drew Leyburne, Director General of Strategic Policy at Natural Resources Canada.

I would like to start by acknowledging that Canada is in the midst of a global transition towards lower energy emission, which is fundamentally shifting how we make, move, and use it. The global energy transition is critical to our economy, where energy industries, including oil, gas, pipeline transportation, electricity generation, transmission, and distribution directly and indirectly account for 10% of our GDP and employ 900,000 Canadians.

That is why this time last year the Minister of Natural Resources launched a broad and inclusive dialogue on Canada's energy future, Generation Energy. The discussion ultimately engaged over 380,000 Canadians through a variety of in-person and online activities. What we heard is that Canadians expect energy decisions to be informed by evidence, using accurate and accessible data. Canadians also feel that people have their own opinions and increasingly their own facts, which makes accurate and transparent energy information important for constructive and fact-based conversations about the costs and benefits, opportunities and challenges of this transition. Moreover, it was clear from Generation Energy that trends like big data, open data, digitalization, artificial intelligence, and blockchain are fundamentally changing both the energy industry and the information available. As government, it is crucial that we keep up with these latest developments.

For all these reasons, it's important for Canada to have a strong energy information system, and we do. At the federal level, Canada's energy information system is a collective contribution of several organizations, including four federal departments or agencies: Natural Resources Canada, Statistics Canada, Environment and Climate Change Canada, and the National Energy Board. When it comes to collecting, analyzing, modelling, or disseminating energy information, these departments and agencies play different roles, which you will hear about this morning.

Natural Resources Canada is responsible for the following. NRCan is mandated under the Energy Efficiency Act to provide energy use data to Canadians and to report to Parliament. This includes data such as the energy use of heating systems in different types of residential buildings, the energy consumption and greenhouse gas emissions of different industrial sectors, and more. We are responsible for Canada's monthly and annual submissions to the International Energy Agency. NRCan compiles more than 50,000 data points that it provides to the IEA for use in its global database and reports.

We also publish the annual "Energy Fact Book", which provides key information on energy in Canada in a format that is accessible to non-experts. It provides information on the relationship between energy, the economy, and greenhouse gas emissions. I have provided copies to the chair for you to look at or to have.

NRCan is also the host of the federal geospatial platform, which brings together data from 21 federal departments and agencies, making it available in a coherent way to the public, academic institutions, the private sector, and others. We've been working closely with the other federal partners to make improvements to Canada's energy information system to also better reflect the transition in the energy landscape. For example, we worked over the last two years with Statistics Canada, and Innovation, Science, and Economic Development Canada to launch a new clean technology data strategy, and we continue to work with Statistics Canada to improve the data on natural resources, including energy, to better track this evolving transition.

Other important partners in the energy information system include provincial and territorial government departments, regulators, and utilities such as Alberta Energy Regulator, the Ontario Energy Board, and Hydro-Québec, which each collect and disseminate a wide range of data.

Finally, academic research institutions and industry associations such as the Canadian Energy Research Institute, Simon Fraser's Energy and Materials Research Group, and the Canadian Association of Petroleum Producers are additional sources of information. Collectively, all these organizations make up Canada's energy information system.

Canada's energy information system fares well by international standards, with our experts regularly providing advice to the United Nations, the International Monetary Fund, the Organization for Economic Co-operation and Development, and the International Energy Agency.

Canada also benefits from a strong relationship with the U.S. Energy Information Administration, or the EIA. The EIA is among the best-resourced national energy information organizations in the world, collecting, analyzing, and disseminating independent and impartial energy information. We in Canada consistently look to the EIA for best practices, and take advantage of collaborative opportunities whenever we can. For example, over the last two years, we have worked with the Mexican and American governments, including the EIA, to implement an agreement on North American co-operation on energy information. This has resulted in the first ever shared map of North American energy supply and infrastructure.

● (0915)

[Translation]

As we look to the future, there are promising opportunities for energy data to be used in new ways to optimize industrial processes and reduce environmental impacts. Big data is enabling smart grids to improve efficiency and reduce the cost of electricity. Oil and gas companies are using AI-capable robots in oil exploration and production, which can increase productivity while reducing worker risk.

Incorporating AI, big data analytics, and other information-based technologies into how we make, move, and use energy will be key for the continued competitiveness of Canada's energy industries, and we are seeking ways to work with industry to drive the adoption of such techniques. Maintaining and augmenting a robust but versatile

and adaptable energy data system like the one we currently have is indispensable for the transition of our energy industries to the future.

Mr. Chair, thank you once again for the opportunity to address the committee. I hope that this overview has been helpful. I would be happy to respond to members' questions.

[English]

The Chair: Thank you very much. The timing is excellent, too.

Mr. Fox, you look as though you're ready to jump on the mike.

Mr. Jim Fox (Vice-President, Integrated Energy Information and Analysis, National Energy Board): I am.

Mr. Chair and committee members, thank you for the opportunity to talk to you about your study today.

Since you have our written remarks, I'm not going to go through them, but I'll give you the 30-second version, which will give us more time to turn to questions.

The National Energy Board is both a producer and a user of energy data, probably more weighted towards a user of energy data than a producer. We have a bit that we do from the production side, but most of it is using it.

As Ms. Oleson noted, energy data in Canada is dispersed amongst a lot of different players, and because of that, co-operation is the key strategy. Building co-operative relationships between and among those parties is the critical path forward for us, it has been for roughly 50 years that the NEB has been using data, and it will continue to be, going forward.

As I noted in my remarks, we are co-operating already with many players, but the key to moving forward is co-operating more, co-operating more fully, and possibly even adding some formal governance to those co-operation agreements.

The NEB is ready to continue to be part of the energy information landscape in Canada. We are here to work with our partners towards a better energy information landscape.

With that, I'm happy to take questions.

The Chair: Fantastic.

All right, Mr. Serré, why don't we start with you?

[Translation]

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

Thank you for being so specific, Mr. Fox. Thank you for the information you provided, Ms. Oleson.

Allow me to review the context. Ms. Oleson, you seem to be very confident in the quality of the data we currently have. Yet Mr. Fox said that we need more cooperation, which raises questions in my mind. When I think of the four federal departments involved, all the provinces and the associations that gather industry data, I wonder whether we have a national strategy for all that information. Do we need that kind of strategy? If not, how will that affect our work, Mr. Fox and Ms. Oleson?

As you know, I only have seven minutes and I will have other questions as well.

• (0920)

[*English*]

Mr. Jim Fox: It wouldn't be up to the NEB to put in place a national strategy, but the way I would respond is that the National Energy Board has built co-operative relationships with energy information providers and energy data providers to meet its own specific needs and the needs of those who come to it. Our relationships and our systems are built to allow us to do the work we're doing, and I would imagine that's true of others.

We have not looked much beyond our own responsibilities to ask what do Canadians need, and therefore what do we need in a larger set of co-operative relationships to meet Canadians' needs?

Ms. Laura Oleson: *Merci.*

I think we don't currently have a national strategy. From an energy perspective, we have begun a discussion with provinces and territories to start to identify how we can co-operate better on energy data, but there are broader discussions. We are in a time of incredible change, and so discussions are also going on about how we can improve the data around natural resources more broadly, and, even larger than that, about what data the government requires. From that perspective, I think this would fit into a broader, all-encompassing national data strategy.

[*Translation*]

Mr. Marc Serré: I would like to ask the two witnesses the same question.

So we do not have a national strategy. The provinces and various industry associations have to gather their own data, and you certainly know that private gas and mining companies also have to collect their own data since they cannot count on data being collected nationally.

How does this impact the private sector? Do you have the necessary experience to estimate the additional costs to the private sector of not having a national government strategy?

[*English*]

Mr. Jim Fox: In terms of actual extra costs, I'm not in a place to estimate or judge. The energy data is widely available in Canada in a large number of places, but you have to be somewhat of an expert to find it easily. Companies will build that expertise and understand where to get the data they need, including from industry associations; provincial governments; certain other kinds of agencies, such as electricity system operators, which are non-governmental organizations; or one of the federal departments. They

will build that capability, and it will add a bit of cost, but it's not that the data isn't available; sometimes it's not aggregated.

Ms. Laura Oleson: Yes, I agree. If I were to ask where we could most improve—and I've had these discussions with my provincial and territorial counterparts as well—it is in the accessibility of the data. It's difficult to navigate the system without a level of expertise. There are 20-plus organizations you can go to for that type of information, and what we heard from Canadians through Generation Energy is that they want a one-stop shop where they can go for reliable and independent information to help inform themselves about the important discussions on energy that are happening in this country.

• (0925)

Mr. Marc Serré: The U.S. and Europe have national data strategies because they feel it's important. This is a non-partisan question. For the past 50 years in Canada, for some reason we've felt that a national strategy was not needed. I wanted to get a sense from both of you as to why you feel that Canada has not invested and looked at a national data strategy for the past 50 years. Are there any barriers there?

Ms. Laura Oleson: While we don't have a formal national data strategy, we have incredible co-operation across jurisdictions, led by Statistics Canada. The data we collect is often informed by provincial data collection. We certainly try not to duplicate what provinces are already collecting. I think my colleagues from Statistics Canada can speak more to that, but there is a tremendous effort to make sure that we work closely with them in spite of the fact there's no formal national strategy.

Mr. Marc Serré: Go ahead, Mr. Fox.

Mr. Jim Fox: I think that sums up the answer. The processes we have in place have worked for us, and Canadians' interests have changed rapidly in the last four or five years, as we at the National Energy Board know very well. Maybe from an energy data standpoint, we've struggled a bit to keep up with the pace of that change, but we are changing and are reacting.

Mr. Marc Serré: Ms. Oleson, you mentioned blockchain and big data. I heard the governors and politicians in Washington and in Peru talking about it. The world is talking about it. How are we adapting here to that, I wouldn't say trend, but that need, when we look at blockchain and big data in this context?

Ms. Laura Oleson: Certainly, my colleagues at Statistics Canada will be able to explain how they are integrating those new technologies into how they're collecting data. We, from an NRCan perspective, are trying to understand how these are impacting the business that occurs, what the needs are of producers and suppliers of energy, and how we might be able to facilitate that from a regulatory and policy perspective.

The Chair: Mrs. Stubbs.

Mrs. Shannon Stubbs (Lakeland, CPC): Thank you, Mr. Chair, and thank you to all committee members and witnesses for being here today.

Before I proceed with my questions, I want to take a few minutes of the committee's time to put a motion on notice, which I'm sure my colleagues will have anticipated. I do apologize for interrupting the witnesses, but this issue is of utmost importance. I'm sure everyone around this table will agree.

As you all know, on April 8 Kinder Morgan suspended all non-essential spending on the Trans Mountain expansion, and provided a deadline of May 31 to stop the challenges, settle the obstacles, and provide certainty for the completion of the approved expansion which is clearly in the national interest.

As recently as April 18, Kinder Morgan reiterated that the expansion might be untenable. This continues to be a crisis for all of us. If this issue is not addressed, and Kinder Morgan halts the expansion altogether, it would, of course, have serious ramifications for the Canadian economy overall, including provinces, municipalities, indigenous communities, interprovincial relationships, energy sector development, and investment in Canada now and in the future.

Given the urgency of this issue, I want to put the following motion on notice:

That, pursuant to Standing Order 108(2), the Committee immediately undertake a study to find solutions to the obstacles facing the approved Trans Mountain Pipeline expansion; that the Committee consider factors such as: (a) the May 31st deadline issued by the proponent, (b) the potential economic, socio-economic, investment, and government revenue losses, and impacts on market access for Canadian oil, related to the potential cancellation, especially on Indigenous communities, (c) municipal, provincial, and federal jurisdiction as it relates to the project, (d) potential points of leverage between the federal and provincial governments, (e) potential fiscal, constitutional and legal solutions; that the first meeting take place no later than May 3rd, 2018; and that all meetings be televised where possible; and that the Committee report its findings to the House.

Thank you for allowing me to take the time to provide notice of this motion, Mr. Chair. I'll proceed with my questions. We have copies of the motion for the committee in both official languages.

I'm really interested in this discussion taking place so far. I would ask the witnesses to confirm that this does not necessarily seem to be an issue of a lack of data, information, or sources of information, but that you seem to be suggesting there's a lack of compilation and consolidation of the information.

I want to take this time to recognize the outstanding, and longstanding exceptional work of the National Energy Board. Over the past several years there have been many implications that the agency had not been up to par. Certainly, on behalf of my colleagues in the Conservative Party, I want to recognize, on the record, that the National Energy Board has for decades been recognized as a

renowned and exemplary regulator. It is second to none, literally, of any oil and gas producing jurisdiction in the world, including in terms of its consultations; standards; independent and objective evidence; decisions made by experts; its incorporation of indigenous and traditional knowledge; and its assessments of the environmental impacts of energy development and the cumulative economic effects. It's important as committee members that we recognize, particularly in this context, the longstanding outstanding track record of the National Energy Board.

I invite you to expand more on the following. Is it just a mandate issue that somebody in the federal government has to say, "Get more information from the provinces", where natural resources are their rightful jurisdiction, or does this necessarily need to be the creation of a whole new agency or arm? I respect that each of you can't comment on policy, but perhaps you could address that.

Also, Laura, you mentioned the U.S. Energy Information Administration. I would invite you to expand on that, specifically the key factors that you see setting it apart. Perhaps both witnesses would like to comment as well.

● (0930)

Mr. Jim Fox: I think Ms. Oleson has a more complicated answer, so I'll speak first.

Thank you both for your question and complimentary remarks.

I think, in Canada, we don't lack energy information or data. The consolidation you spoke about is the key factor we need to focus on. I will add, though, that, as the energy system transforms itself, we need to continuously look to new forms of information and data, new ways of gathering data, and new analytical methodologies to kind of keep pace and be able to give advice and information that decision-makers need to make their decisions.

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 and be able to provide that in a consolidated way, a way that's easy to find and use.

Ms. Laura Oleson: When I talk to my provincial colleagues about the energy information system, we talk about data analysis, modelling capacity, and dissemination. Certainly, the data requires us to regularly evolve what we're collecting. The transition has required us to make sure we're collecting the right information to be able to track this transition. In recent years particularly, we didn't have the information on the clean-tech sector and what was happening there. I'm really pleased that that's a new line of data we are collecting.

On the analysis side, certainly all of the federal departments and the NEB have a strong analytical capacity that we can bring to bear on issues. On modelling, that's an area, certainly from an NRCan perspective, where we're having discussions with the NEB and Environment Canada about how we can bolster it. NRCan doesn't have its own economy-wide modelling capacity to look at policies, so we sometimes find ourselves challenged in wanting to look beyond what the emission reduction impact is of policies and programs to the economic benefits, how it is impacting jobs, and how it is impacting growth. That is something we're having an active discussion about, again, because the transition is so vast that we need to be able to see the full dimension of the energy sector when we're making these policies, not just the emission reduction profile.

Finally, there's the dissemination. You're right; it is difficult for people to find that one place to go for comprehensive, consolidated data to understand how the data aligns, because it's being collected by different parties. That is certainly a gap that I know the provinces and territories and we are talking about and are aware of, and we're working with Statistics Canada and other partners to see how we could improve that for Canadians.

• (0935)

The Chair: Thank you.

Mr. Cannings.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you all for being here today. This is a really interesting subject to me. Before I got this job, I was an ecologist working on national-scale ecosystem planning projects and bird population trend analyses that all involved big datasets across provincial boundaries, with a lot of data coming from industry. It was a nightmare gathering all that data. It sounds like it's kind of the same here.

The groups I worked with developed their own expertise in this, but when we looked at things like forest cover between B.C., Alberta, and Ontario, it was all different. Everything had to be cross-walked in various ways. It was very time-consuming. I would have thought it would be a little different with energy, but it seems that some of the problems are the same.

Yesterday evening, I was over at the Positive Energy meetings at the University of Ottawa. They just put out a study called "Durable Balance: Informed Reform of Energy Decision-making in Canada", which seemed very timely. They have a one-page summary of what that group feels needs to be done about the Canada energy information system.

I would first ask both groups here about the extent of that problem between provinces and industry. You say you have the expertise, but how big a problem is that with different datasets being in different

formats, gathering different kinds of data, and having to massage it? Is that a concern in the energy data world?

Mr. Jim Fox: Dr. Bhargava, who is here with me today, is the leader of our modelling group. I think she'd like to take a stab at your question.

Ms. Abha Bhargava (Director, Energy Integration, National Energy Board): I guess the best way to put it is that the data is there. The problems are not uniform with every set of data. As our colleagues here explained, the data in Canada is widely disbursed. It comes from provincial sources, which are very important. You really have to look at each dataset to understand where the problem might be, or if there is a problem. For example, data on the production of oil and gas is collected by all the producing provinces for their own individual mandates on royalties. Where there may be a lack of data is in regard to storage. Natural gas storage, for example, is not easily found, even in the provincial sources. Crude oil inventories, for example, are not easily found.

I think the state of the data is such that some of it is very enriched and fulsome, while some is lacking. That's where the efforts need to be put. As my colleagues here have stated, collaboration and coordination are the two big words to use in this context.

Mr. Richard Cannings: Okay.

Mr. Drew Leyburne (Director General, Strategic Policy Branch, Strategic Policy and Results Sector, Department of Natural Resources): I will just add that, to aggregate some of the data sources, there are a few tools that have emerged over the last few years that we are taking advantage of. We mentioned machine learning and artificial intelligence, which can do a lot of that crunching of the big data and process it, so humans can more easily access it.

We also have tools within the federal family that Laura alluded to earlier, like the federal geo-spatial platform, which takes the geographical information, whether on pipeline infrastructure, electricity grids, boreal forest habitat, or species at risk, and puts it into a single portal. It's called Open Maps and anyone in the public can access it. It can help people navigate the various layers of information that are sometimes really difficult to process when they're independent datasets.

● (0940)

Mr. Richard Cannings: I'll ask another broad question of all of you here. It comes directly from the following statement by Positive Energy. One reason I think we're talking about this is that energy information is crucial to developing good policy. We have different groups from various angles coming at this.

One of the paragraphs here says:

Credibility is the key criterion for a functioning energy information system. High quality, credible energy information must be relevant to users' needs; accurate and reliable; timely and punctual; coherent and comparable; accessible and clear... Furthermore, to avoid political bias, energy information systems should operate at arm's length from the government.

I'd like to ask for your thoughts on that last statement especially.

With regard to the business of the Canadian energy system as it stands now, most people I talked to at the meeting last night said they just go to the U.S. Energy Information Administration or to the IEA, to get their information because it's so much easier and more comprehensive.

To me, it's a worry if we're going to the U.S. or international agencies for information on our own system. That and this arm's length aspect, I wonder if you could comment on that.

Mr. Jim Fox: From the National Energy Board standpoint, we do operate at arm's length from the government. We're an independent agency, a creature of statute. We take our energy information mandate from our legislation and provide it. I can say there's no influence that flows from the government itself to the NEB. We consult with government agencies when we're creating our outlooks and our program about what their needs might be, but we don't take direction from them on either the products or the outcomes we have. We feel that information we have is independent from government.

In terms of reliability, we often do hear from people that we should emulate the EIA because their site on Canadian data is better than ours. Indeed, it's probably better than any one of ours, but in the collective sense, Canada's energy data is robust. It's a bit difficult to find, and that's an issue we should address, but I don't believe that either the EIA or the IEA have better data on Canada than Canada does.

Mr. Richard Cannings: I was talking about the ease of use.

Mr. Jim Fox: It's possibly easier to use their sites. I don't actually use them. I have Dr. Bhargava here.

The Chair: Mr. Cannings, I'm going to have to stop you there.

Mr. Whalen, you're up last. You have three or maybe four minutes.

Mr. Nick Whalen (St. John's East, Lib.): That's a shame, because I have 50 minutes of questions. I might resubmit them some other way.

For years I've been getting weekly and daily reports from the Energy Information Agency in the U.S. It's part of my daily routine to check that. Ironically, on April 18, "U.S. imports of Canadian crude oil by rail increase" was the title of their weekly petroleum report. It's great, it's a good site, and it seems as though a lot of the data is there, but maybe not enough.

Come on now, guys. I don't have a lot of time.

We have the information. If I have one question, it is this: who would pay for a portal and how would a portal be funded within an independent agency of government so we can get this data together and get it out, essentially in the same form as either the International Energy Agency or the U.S. Energy Information Administration, horribly close acronyms, so that people don't have to learn how to use a new GUI, it's the same type of data information, and we're just copying what the best are doing? Who would pay for that, and where would it reside?

I put that to Laura and to Jim.

Ms. Laura Oleson: The fundamental question is, do you believe energy information is a public good? If it is, then I would say governments would pay for it. I do know, and perhaps Jim and Statistics Canada can elaborate, that they do have some pay-for-usage models where there is a commercial value to it. The provinces, territories, and utilities all have an interest in this data as well. I certainly can't speak for them, but I think this would be something of interest as well. However, that hasn't been determined.

● (0945)

Mr. Nick Whalen: Jim, you already have a www.neb-one.gc.ca data exchange portal, but it's really not to the same standard as the rest.

Mr. Jim Fox: I disagree that it's not to the same standard. It's intended for a different purpose. As I think I mentioned earlier, we have developed our methods and our standards for the purposes set out in our legislation, that we have to do energy information. We monitor markets, we track supply and various developments, and we also use our energy information program to support our regulatory mandate.

Doing analysis of that type of information gives us the skills and ability to look at, say, an applicant's business case for their pipeline.

Mr. Nick Whalen: How do we get from what you have to what you assess?

Mr. Jim Fox: We get from what we have to an excellent system through co-operation between all the different agencies and organizations that have energy data, and through agreement on a collaborative way forward to produce, daily or weekly, whatever reports are necessary for Canadians. It's about focusing together on a larger challenge that is not the responsibility of any given agency.

Mr. Nick Whalen: How much of your department's resources are dedicated to the data exchange portal right now?

Mr. Jim Fox: To the data exchange portal, I can't tell you, but I can tell you that our energy information writ large has about 30 staff members, from about 500.

Mr. Nick Whalen: Perfect. Thank you so much.

The Chair: Thank you all very much for joining us today. I'm sorry that we're short on time, but that seems to be the case with every set of witnesses. We come in here and could take much longer than we have, but it's been a great start to our study.

We will suspend now very briefly.

- _____ (Pause) _____
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- (0950)

The Chair: We'll resume our second hour. Thank you to our witnesses for joining us this morning.

I know that you heard part of the earlier presentations, so you understand the procedures, but I'll go through them quickly. Each set of witnesses has up to 10 minutes for their presentation, following which there will be questions from around the table, in French or English.

Let's jump right into it, since we are running behind.

We'll start with the Department of the Environment.

Ms. Gonçalves.

Ms. Jacqueline Gonçalves (Director General, Science and Risk Assessment, Department of the Environment): Thank you very much for the opportunity to be here today. I'm going to share my time with my colleague, Mr. Mr. Derek Hermanutz, from the Department of the Environment. We're primarily here today to speak to you about our use of energy data. We are consumers of that data, so we'll be speaking from that perspective.

Every year, Environment and Climate Change Canada obtains statistics on fuel consumption from our colleagues at Statistics Canada. These statistics are a critical input to our annual key deliverables, namely, the national inventories of sources and sinks of greenhouse gases, and of the emissions of air pollutants, and black carbon.

The inventories that we produce fulfill a number of domestic and international functions, such as meeting the international reporting requirements and setting the official benchmark for actual emissions in Canada since 1990.

The national greenhouse gas inventory is perhaps our most visible product. It's updated every year and published on an annual basis, and the most recent one was put out only about 10 days ago. It's published every April. Based on the latest published data, anyone reading the report will see that fuel use in Canada represents approximately 80% of total greenhouse gas emissions. This means that over three-quarters of the greenhouse gas emissions cited in Canada are based on the fuel statistics that we receive from our colleagues at Statistics Canada.

There's been a long-standing and well-established process through which our two departments closely collaborate on the quality control of these fuel statistics and how we use them. Certainly the provincial and territorial stakeholders scrutinize the greenhouse gas emissions attributed to their respective jurisdictions and will alert us when they identify any inconsistencies or unexpected emission data. In turn, we

work directly with those jurisdictions and with our colleagues at Statistics Canada to resolve those issues.

Fuel statistics provide the solid basis for our GHG inventory. While it's a well-established process, there are, of course, continuing improvements that need to be made and that we continue to work on. For example, reducing the variation in the quality of the data between jurisdictions is an important issue for us as we produce national inventories. Certainly emerging issues like biofuels are an area that we continue to need to improve the statistics on, and, of course, minimizing any revisions from year to year because we are collecting data on a long trend line, and that information is updated on a yearly basis. We do sometimes pick up issues that affect the longer trends of previous years. That's why revisions and minimizing those disturbances across the trend line are very important.

Environment Canada also recently launched an expansion to its own greenhouse gas reporting program, which collects greenhouse gas emission data from facilities directly, across Canada. That expansion will allow it to feed facility data directly into our greenhouse gas inventory. While there is currently very limited duplication between what Statistics Canada collects and what we will start collecting, we will obviously work together very closely to ensure that there is a minimum of duplication in terms of data collection for those purposes.

I'm going to pass it over to my colleague, Derek, who will also talk about the products that he's involved with.

Mr. Derek Hermanutz (Director General, Economic Analysis Directorate, Strategic Policy Branch, Department of the Environment): Thanks, Jacquie, and my thanks to the chair and the committee members for inviting me here today. I'll just build on Jacquie's remarks on the national inventory report, which looks at the historical emissions, and some of our UNFCCC requirements for reporting on projections.

A major UNFCCC report, the national communication on climate change, is due every four years. We just published one in December 2017. In the interim, there are also biennial reports, which are abridged versions of the national communication on climate change, and they are submitted every two years.

The UNFCCC has developed reporting guidelines and a rigorous review process for these reports, and according to the guidelines, these reports also include a chapter on GHG projections among other reporting elements.

The department has committed to publishing updated projections annually, and we've been doing that since 2011, so in between the biennial reports the department publishes a standalone report that focuses on the GHG projections. In order to develop these projections, we rely heavily on the historical energy data from Statistics Canada, as well as oil and gas price and production projections from the energy futures report prepared annually by the National Energy Board.

One of the most important data sources coming from Statistics Canada is the "Report on Energy Supply and Demand in Canada". It's the cornerstone for the development of our projections and contains information on historical energy use by sector and province. We also use a number of supplementary data sources in the preparation of our projections, including electricity capacity generation and oil and gas production.

In addition to developing projections for greenhouse gas emissions, we also prepare projections for air pollutants based on the same energy dataset. These projections are used to assess progress towards Canada's climate change targets, through the international reporting, as well as to inform internal analysis during the policy development stage and provide the foundation for the cost-benefit analysis that is done for regulatory impact analysis statements for proposed regulations the department is setting forward.

Our publications on projections are used widely by the public, non-government organizations, and academics in their analysis and research.

I'll just close by saying that in the preparation of our projections we consult quite closely with provinces, territories, and other third parties to make sure there's sort of a built-in peer review process.

I'll thank you again and I'll turn it over to Greg.

• (0955)

Mr. Greg Peterson (Director General, Agriculture, Energy, Environment and Transportation Statistics, Statistics Canada): Thank you, Mr. Chair.

Coming from Statistics Canada, any morning when we get to discuss data is a good morning, indeed.

My name is Greg Peterson and I'm the director general responsible for agriculture, energy, environment, and transportation statistics. I'm joined by René Beaudoin, the assistant director responsible for the energy statistics program.

I have brought a series of slides and I'd like to go through these very quickly.

The energy sector is very important to Canada's economy. I've presented a few stylized facts on slide 2. I'm not going to read numbers out to you. The key is that energy is important to Canada's economy, society, and the environment. Canada needs good quality and reliable energy to support decision-making, policies, programs, and investments. We need this information also as a feeder into other broader areas, such as estimates of gross domestic product as well as the emissions data that are produced by our colleagues at Environment and Climate Change.

However, this need occurs in an environment where data are ambiguous. They're produced by both the public and private sectors. It occurs in an environment where machines and sensors are producing petabytes of data that are ready to be subjected to visualization, modelling, artificial intelligence, and other data science techniques. Organization of this information is important, otherwise we risk being a country that is data-rich but information-poor.

The third slide in our presentation presents a schematic of our current statistical framework for energy in Canada. Much of the data are collected and disseminated by our energy statistics program in Statistics Canada. In the schematic, that's illustrated by the box is shaded in blue. The data that we produce focuses on the production, transformation, distribution, and consumption of energy.

I'd like to note that the data that we produce are harmonized with international standards for energy data so that we're coherent with other countries. However, there are many other players that are involved in the energy statistics field. We heard this morning about some of the good work that's done by the National Energy Board and our friends at Natural Resources Canada. There are provincial and territorial bodies that collect information for regulatory purposes. Industry associations collect information about their members. There are other areas of Statistics Canada that collect information about the energy sector even if it doesn't relate to energy production, like labour force statistics or information on science and technology.

We have a broad community of data producers and we also have a broad community of data users. My colleagues from Environment and Climate Change have described how they use the energy statistics we produce. At NRCan, our data are used for the production of energy efficiency indicators. We provide information to Global Affairs Canada and have had to help with Emergency Preparedness. We have a broad community of users in the academic community, and, of course, this information feeds into international bodies such as the IEA.

I would argue that currently we already have a solid base and broad range of energy statistics available for Canada.

However, as slide 4 indicates, we don't live in a bubble. We listen to feedback from our users and from other stakeholders. It's clear that Canada's energy statistics are not perfect. From what we've heard, there are a range of challenges on several fronts that probably need to be addressed. In the area of collection, there are many organizations that are gathering energy data for their own purposes, which could create a duplication of effort, additional costs, and an additional burden on respondents. Having these multiple sources of information could occasionally create confusion for users as to which data are official and which ones are the best to use.

Having multiple data sources can also lead to concerns about data that aren't necessarily coherent or of comparably good quality. Then there are some gaps. The energy sector is rapidly evolving. With the advent and growth of new sources of energy, such as renewable energy and co-generation, the environment is changing. We need to keep on top of these changes, and the system has to be able to react.

Finally, there are barriers to access. One important feature of the energy sector in Canada is that it's dominated by a small number of large players. From our perspective this leads to issues of data suppression in order to protect the confidentiality of individual respondents. At Statistics Canada we recognize the need to work to find better ways of getting more data in the hands of users.

These are the issues that we face now, but if we think about where we're going in the future we're moving to an environment where there's going to be a larger quantity of sensory and administrative data available. This will give us great improvements in order to make significant improvements to the energy statistics system, but it creates additional challenges and it will require better coordination in the acquisition, curation, organization, integration, and modelling of these types of information.

•(1000)

We need to take action on these challenges to maintain and enhance our energy data. Here, Statistics Canada has embarked on a modernization initiative that, among other things, is driving us to develop a more user-centred focus, putting increased emphasis on collaboration and partnerships, and a thrust on using more leading-edge methods, moving away from the traditional survey approach to gathering data, more toward adopting an "administrative data first" approach for information gathering.

Through this modernization lens, we're being driven to do better. In the context of energy statistics, we see three things that we need to do as an organization.

The first relates to improved governance. We need to be more efficient in data collection and data sharing. We need to minimize the burden that we place on respondents by tapping more and more into administrative data sources, and coordinating with other organizations on how we gather these statistics. Ideally, we want to collect once, but use many times.

There are a lot of interested stakeholders in the energy community, and we need to get them more involved. Statistics Canada has collection expertise and infrastructure, but we can benefit from existing subject matter knowledge, both within and outside government. We've already entered into data-sharing agreements with most provinces and territories. We already have data moving between jurisdictions, but again this enhanced co-operation would be a good thing.

Second, we need to improve on data access. We realize this is an important goal. We have to get more data into the hands of users. To do this, we have to do a few things. Users need to be more aware of our collective data holdings. We have to reduce barriers to access. There have been discussions about a single point of access, so we should aim toward a one-stop information hub where users can find the data they need, or links to those sources. We also have to do a better job in providing access to micro data for researchers in a secure environment that respects the confidentiality of our respondents.

Third, and finally, we recognize that we need to improve the quality of the data we're producing. In addition to the traditional objectives of improving coverage, timeliness, and comparability, and filling in data gaps, we have to take a more integrated approach to

data, taking advantage of these new sources of information that are becoming available and finding mechanisms of putting them together.

In thinking about governance, the issues that I've just raised are not new to Statistics Canada. We've encountered similar issues in bringing together data from multiple jurisdictions. We've done this successfully for years in areas such as justice, health, and education. Most recently, Minister Garneau last fall announced the creation of a virtual Canadian centre on transportation data. Without changing any of the machinery of government, we started working much more closely with Transport Canada, with both bodies collecting information on the transportation system. We worked on the coordination of the information that we collect with the objective of those Olympian ideals of being better, faster, stronger, eliminating duplication and operating more efficiently.

In the few short months we've been in existence, we've introduced two significant data products: an economic account or satellite account on transportation, and a Canadian trade analysis framework, which we were able to produce for millions of dollars less and years faster than following methodologies that the United States has used in its Bureau of Transportation Statistics. Through co-operation we've been able to focus our efforts on developing new data products that meet the very specific needs of people in the transportation community. At the same time, we've put a single transportation information hub in the field that was released in the past two weeks, which again brings together data from both organizations to a single point of access. The way in which we developed this has been more like a lean start-up where we bring together what we have, but the objective is to bring in information from other partners with the objective of having one comprehensive site that meets the needs of transportation users.

In conclusion, we recognize there's a strong interest in improving energy data. We at Statistics Canada are keen to work with other key players to continue to improve the state of energy information.

Thank you.

•(1005)

The Chair: Thanks very much.

Ms. Ng.

Ms. Mary Ng (Markham—Thornhill, Lib.): Thank you so much, everyone, for joining us today, and for the information you and previous witnesses have shared. It will be very helpful to the work that we're about to do here in the committee.

Statistics Canada knows full well that we reintroduced the long-form census, and the purpose of that of course is to continue or resume the collection of very important data that will help governments and policy-makers make decisions based on real data. I think about it in this particular context, and listening to the various testimony today and what you're getting at around some of the gaps. Thank you for sharing that last bit on the work that Statistics Canada has done in the area of transportation.

Where do you see an opportunity to address some of those gaps and to create the kind of datasets and incorporate the analysis that obviously exists in NRCan or in the NEB, and perhaps also in Environment Canada, that can utilize the data? It has to start from a comprehensive or good set of data, or data that isn't in there through new methodology. Can you talk to us a little about what that opportunity could look like, the other side of addressing the gaps you've stated?

Mr. Greg Peterson: That's a very good question. I'm going to tread carefully so I don't veer into policy.

Maybe I can pile onto the model that I described for transportation. In that instance, we found issues that are very similar to what we're discussing here today on the state of energy statistics. In the transportation model—again, it's very early days in rolling this out—we started working among the federal partners involved with transportation information to first identify where the information lies and exactly who was holding what, and then we worked to eliminate duplicative inefficiencies. We—

Ms. Mary Ng: Could you pause there for a second? With respect to the current context of energy data and environmental data, what would you see...? In your deck, you say there are a lot of collectors, a lot of incoming data. On that point right there, where do you see the complexity, the duplication perhaps, and therefore what is actually leading to the gap? Could you pick it up there?

●(1010)

Mr. Greg Peterson: If we focus a bit on the governance, the first step would be bringing all of the actors together to really enumerate exactly who is doing what and to identify where there are gaps and duplication. If there are areas of duplication where we can find efficiencies, then let's harvest those efficiencies and then drive them toward addressing some of the gaps.

Ms. Mary Ng: Okay.

We heard a lot about the evolving landscape now in terms of the interest of many to get access to the data. Whether they are government policy-makers or are in industry and trying to plan to meet their own GHG reduction targets, they often look to datasets, to data, so that they can plan, finance, and make the kinds of decisions, in the case of industry, that are important.

In this context, can you talk to us about how Statistics Canada or the federal government would be able to play a role in bringing that data together in a way that would be helpful to policy, to government decision-makers, and to many other users? Can you give us some advice about that?

Mr. Greg Peterson: Statistics Canada already has the mandate to collect, compile, and analyze information. We already have the legislative authority to acquire administrative data from any level of government, and we do this in practice.

We've developed a statistical infrastructure that allows us to integrate various data sources together. For instance, we have a business register that identifies all Canadian businesses, and we use this as a matter of course to link tax data to other economic production information, whereby you can come up with that integrated dataset. I think the mechanisms and tools already exist to do that, and at Statistics Canada this is part of our core business.

In terms of making the data available to users, I think there are two dimensions to that. One dimension is to make available aggregate statistics, and certainly we make available through our website the aggregate statistics that we produce in Statistics Canada. In work that we've done with Transport Canada, we've developed an independently branded portal that brings all of this data together, and for sure that's how you can handle aggregate information.

We also make micro-level data available to researchers in a secure environment currently through our network of research data centres in universities across the country, and here in Ottawa we have a kind of business data/research data centre as well.

Ms. Mary Ng: We had heard from others about new data, but the new data is generated by new forms of collection, right? It's technology-driven, right? It's data that exists in industry: big data and blockchain. We also heard that there is some analytical capability on the part of others, whether it's NRCan, the NEB, or the environment department, or ability to do it with their own data within their own mandates. That would exist for industry as well, because they're compiling their own and using it for their primary uses and sources.

When we look at the evolving nature of the way in which data are actually created, compiled, and now have the capability of being crunched through AI and big data, can you talk to us about where the opportunity is, whether it's for Statistics Canada or for anybody, or whether it's in this entire collection, and ultimately gets us the end result that addresses that continuum you talked about? That is a synthesis of what's coming in and, ultimately, better data at the end for one collection and multiple use. How do the methodologies and that sort of new technology play into it? Is there a role for StatsCan in this?

Mr. Greg Peterson: I think collaboration and co-operation are key. StatsCan can play a role in this as a kind of a curator, consolidator, or integrator of information.

I can give you another example from transportation.

●(1015)

The Chair: It will have to be a very quick example, if possible.

Mr. Greg Peterson: We learned from Transport Canada that they were acquiring GPS information from trucks. We were able to acquire this GPS information from Transport Canada using AI techniques to identify when trucks were stopping. We could link this geospatial information to our business register and identify where the trucks were stopped, and we could infer what the trucks were doing.

We couldn't do that on our own. It required the co-operation from a couple of departments, but we were able to move the yardstick forward because of that co-operation.

Ms. Mary Ng: Thank you.

The Chair: Mr. Schmale.

Mr. Jamie Schmale (Haliburton—Kawartha Lakes—Brock, CPC): Thank you, Chair.

Thank you to all witnesses for participating today and for your comments. They're greatly appreciated.

I guess I will pick up a bit on what Mary was talking about and start with our friends from the Department of the Environment. This is regarding the carbon tax.

Do you or anyone in your department have any data that you are aware of that would explain how much Canada's emissions will be reduced under a \$50 a tonne carbon tax?

Mr. Derek Hermanutz: I can say to the committee that the government should be releasing a report soon with the impacts of existing and proposed carbon pricing in Canada, and I can make sure that the report is available to the chair and to the committee members once it's released.

Mr. Jamie Schmale: That would be greatly appreciated, because we just found out yesterday that carbon pricing is going to suck out about \$40 billion of GDP from our economy by 2022. Having the data on the other side to tell us what we will be getting in return for our money would be greatly appreciated. I look forward to hearing that report.

Maybe this could be open to anyone at the table. In terms of the pipeline projects that are going forward, we were recently made aware that a project in Quebec, a proposed airfield terminal in Montreal, was exempt from downstream emissions.

Do you or anyone at the table have any information on why it was given an exemption in Quebec, but wasn't in Alberta's case?

Mr. Derek Hermanutz: I don't have any expertise in that area, but I can commit to the department's following up to come back to the committee with some information on that question.

Mr. Jamie Schmale: Okay, perfect. Thank you.

I should point out, because I have the floor and have some time, that Alberta was the first jurisdiction in North America—and this happened over a decade ago—to implement a levy on all industrial emissions. They had a project in place to decrease emissions, and that happened well before many were even talking about this. I want to give a shout-out to the fact that Alberta has been ahead in many areas. They have some of the best standards anywhere in the world, and the fact that we continue to see them being pushed aside is quite unfortunate. I appreciate the—

The Chair: Sorry, but I see a hand up over here.

Ms. Ng.

Ms. Mary Ng: On a point of order, we are talking about data.

Mr. Jamie Schmale: Yes, and that's why I was asking about data, and you were talking about emissions.

Ms. Mary Ng: I was talking about data.

Mr. Jamie Schmale: I was just picking up where you left off on emissions.

The Chair: Let's hear the question, and then we'll see if it's relevant.

Mr. Jamie Schmale: I was just clearing my throat, Chair. I was just getting ready.

Some hon. members: Oh, oh!

Mr. Jamie Schmale: I'll open this one up to the whole floor.

We're talking about data, and any search of Stats Canada could result in your finding a wide variety of sources on data. It's there; we have it. I'm still—and you're going to have to sell me on this and push hard here—trying to get my head around the fact that it is absolutely necessary that we create a separate agency for national energy data. Is it a necessity? Can we just not use current sources and maybe streamline them a bit better?

Mr. Greg Peterson: I believe that we have many of the data sources already there. Where we don't have the data sources, we should be working on identifying where the gaps exist. I think we have other models in place where we haven't had a change in the machinery of government in order to coordinate data holdings at various jurisdictions.

• (1020)

Mr. Jamie Schmale: Does anybody else want to comment before I keep going? No? Okay.

Statistics Canada is reporting that some of the energy data is better than others. Some of the data that is collected could be improved. Some of it goes uncollected. You actually mentioned that a second ago.

Where else can we look to make improvements? Do you know specific areas where we could be pushing forward in your field, and in others? I'm just looking to keep the conversation—

Mr. Greg Peterson: We have identified gaps in the data on renewables. We have a number of partners that are keen on our improving the timeliness of our data. We're continually being asked to produce more granularity. There is a concern among energy users that we are suppressing data cells if our data identifies what's happening within an individual business. However, in some cases, we wind up publishing pages of Xs. So we're looking at new methodologies either to get respondents to allow us to release that data or at methodologies to perturb the data, which would allow us to report on some trends and to release more data while protecting the confidentiality of individual respondents. There is a lot of work to do.

Mr. Jamie Schmale: Excellent.

How much time do I have?

The Chair: You have a minute.

Mr. Jamie Schmale: Okay, I'll go back to my friends at Environment. This is more of a provincial issue but it relates to data, and I wasn't going to do that, but Marc Serré is over there, so I have to ask it.

Do you or does anyone in your department have any data on the number of birds that have been severely impacted by the wind turbines in Ontario especially?

Mr. Derek Hermanutz: That would be a question for a follow-up from the department.

Mr. Jamie Schmale: Perfect. I would love to see that if possible. Thank you.

Mr. Marc Serré: And me too.

Mr. Jamie Schmale: Save the birds, exactly, Marc. Absolutely.

This is more a comment than a question. We do know that the Ontario government got an exemption from the species at risk program to allow wind turbines to go up in certain areas. So I would love to get a response back from you that I could bring to the people asking me how this happened. I would appreciate that follow-up. Thank you.

The Chair: Thank you.

Mr. Cannings.

Mr. Richard Cannings: Thank you, all, for being here today.

I'm going to start with Statistics Canada and talk about this whole idea of the need for a one-stop shopping centre, a hub. We've seen that in the U.S., the Energy Information Administration seems to be a model of that.

Could you comment on whether Statistics Canada could provide that service or whether it would be better to create a new hub. Using the U.S. as an example, do they do things better than we do? Is it because of the differences in their states or federal structure?

Mr. Greg Peterson: I think I could answer.

First, could we create a data hub? Yes, we've done that in other areas.

Regarding the EIA itself, different countries organize their statistics in different ways. In Canada we have chosen to create one single national statistical office that assembles all official statistics together.

The United States has a decentralized system and has evolved into a governance structure quite a bit different from ours. You have the U.S. Energy Information Administration that focuses on collecting information on energy production and transmission and forecasting. For sure, it has a state-of-the-art system in producing this information, but if you go back to the stylized facts that I gave you in my second slide, if I were to assemble that information from the United States, those data points wouldn't come from the EIA. They would come from the U. S. Bureau of Economic Analysis, the U. S. Bureau of Labor Statistics, the U. S. Census Bureau, the National Science Foundation, and I think I'm missing one, but it

would be collected from various parts across the federal statistical system in the United States.

For sure, the EIA has centralized some part of its statistical system into one body. However, the United States still operates in a fairly decentralized fashion, which gives them issues from time to time with the sharing of information between different statistical agencies.

• (1025)

Mr. Richard Cannings: Right. Again, using the U.S. or other countries for comparison's sake, do they have the same challenges we have in obtaining industry data? Are there different laws or rules about reporting data from industry in different countries?

I'm trying to get at whether there is something that the Canadian federal government could do to move to a better model of data collection.

Mr. Greg Peterson: Again, I'm not an expert in the legislative backing behind the federal statistical system in the United States, but we already have within the Statistics Act the authority to survey businesses and individuals. We already have the authority to acquire administrative data from any jurisdiction, corporation, or organization. The legislative framework already exists, then, for us to acquire that information.

Mr. Richard Cannings: Again, I mentioned earlier, with the previous witnesses, the problems of different data formats and different kinds of data coming from different provinces. You have data-sharing agreements, but is there an overall movement to try to make that data more coherent and gathered in the same way across provinces? I'm just wondering where that process is and if it could be improved.

Mr. Greg Peterson: We already acquire data from various jurisdictions. We already acquire data from most provincial regulators. You are right. It would be a lot easier if we could get everybody to report to us the data in a similar format, using some similar definitions and metadata. In a way that's our job at Statistics Canada, to bring together disparate data sources and hammer them into a consistent framework.

I mentioned during my presentation that it would be helpful if there were better co-operation and some more formal governance, perhaps. For sure, we have to include our provincial and territorial governments in this exercise, so that we can achieve some of things you're talking about. Ideally, everybody would be reporting everything in the exact same way.

Mr. Richard Cannings: Just to finish up on that theme, if we had one coherent national hub of energy information, would you see StatsCan as the logical home for that?

Mr. Greg Peterson: We can certainly play a role in the collection of information, bringing it together and publishing it. However, there is not one body that can do it all. It has to be done in collaboration with others.

Mr. Richard Cannings: There are 20 different players, I heard, that are collecting data on energy. You can't have one place where I could go to get information, where StatsCan could be the provider, and you would do all the hard work and heavy lifting for me to gather all that data, crunch it, and make it coherent.

Mr. Greg Peterson: If you're talking about a single information hub, that is a model we've had in other places, and it's a model we could duplicate in energy.

Mr. Richard Cannings: I'll move to the Department of the Environment. You mentioned you had to do work to reduce a variation in quality of data. Again, I assume it's from different agencies in different provinces. Does that get reported back to them? If you clean up a dataset, do they clean up their own?

Ms. Jacqueline Gonçalves: Certainly it's an annual process, so the collaboration is ongoing.

We often find, for example, that we receive data from Statistics Canada that has been collected from the provinces and territories. We then look at it and make sure that we apply the appropriate quality controls to it. We then share it with the provinces and territories for them to also have a look at before it's published officially. Sometimes they will come across discrepancies or differences between the data we've provided to them and what they have.

So there is a process of collaboration that goes into trying to resolve the discrepancies, but that is an ongoing annual cycle.

Mr. Richard Cannings: Thank you.

The Chair: Mr. Whalen.

Mr. Nick Whalen: Thank you so much.

Thank you to Mr. Harvey for allowing me to use some of his time. I'm totally geeking out here.

Mr. T.J. Harvey (Tobique—Mactaquac, Lib.): I'm so generous. It never ends.

• (1030)

Mr. Nick Whalen: There are a number of questions I wanted to ask each of the stakeholder government organizations, and I'll read them out. Some of them are going to be answered in writing. I'll come back to Mr. Peterson about the StatsCan portal in a second.

With respect to energy information, how frequently are we currently disseminating the information that we collect? What's the international best practice currently for disseminating the information? In the case of the user groups, how frequently do they need the information to be disseminated to achieve their policy goals?

Next, how many people in your organization are currently involved in energy data exchange? How many people do you expect to need in order to meet the frequency of distribution to achieve your organization's goals? Have the standards for data exchange in your sector with respect to energy been determined, or are they still being developed?

Would you consider your organization to be a user, a key stakeholder or a data collector—or someone who could supply the back end? I guess that's StatsCan now, as we're seeing.

Are there regulatory changes that would be required to compel energy data exchange to your organization or from your organization

in order for us to have an energy data portal that meets the international best practice?

In terms of quality control, if your organization is responsible for collecting and disseminating the data, which independent organization of yours should be responsible for making sure that this data is of a suitably high quality?

We're going to get the blues. Those questions will be prepared in both languages by the back engine of Parliament, so we'll be able to send them to you. I just wanted to make sure that would happen quickly, because it will inform questions that we ask to future visitors.

I've just gone to the StatsCan portal *The Daily*, and I love it. I just got a password. It's set up very similarly to the Energy Information Administration's page, the U.S. one that I visit. It's all of StatsCan's data, not just energy data.

If there were going to be other stakeholders involved in creating such a portal, Mr. Peterson, who do you feel should be involved? You said there were other stakeholders in your transportation portal—which I wasn't able to find, unfortunately.

Who would you consider to be the key stakeholders that you would work with to make sure that StatsCan could develop this portal for energy?

Mr. Greg Peterson: For certain, the initial focus would be for the departments and agencies that have been here this morning—the NEB, Environment and Climate Change, and Natural Resources Canada. They are the key users and key producers of information.

Given the joint nature, the shared jurisdiction, that energy has, in very short order we'll need to do this in collaboration with the provinces. I'm sorry to harp on the transportation model, but in that model, we started very quickly with getting our federal act in order. We have started working with provincial ministries of transportation to start creating a space that they could load their information in as well.

Mr. Nick Whalen: Ms. Gonçalves, in your organization, what type of additional information do you think the public would need or your own department would need that you're not already getting to allow the former to make more informed climate change decisions and for us to achieve our Paris commitment goals?

Ms. Jacqueline Gonçalves: In terms of the responsibilities that I have—and maybe Derek can jump in about what he does—we essentially collect information based on the UN's IPCC guidelines, which are strict guidelines on the types of sectors and type of information we need to collect in producing our inventories.

Right now, there is an ongoing effort to ensure that we are collecting information that accurately reflects the industrial processes that generate GHGs so that we can fulfill our mandate to the United Nations, in particular, in terms of the overall UN Framework Convention on Climate Change.

We work within that framework, and our focus is really on historical data. We collect information from 1990 up to our latest report, in 2018, which is to 2016. Every year we add on a new one. So really, our focus in terms of data gathering and informing—

• (1035)

Mr. Nick Whalen: Let me go to that. It seems that when I want to make decisions, I don't want to base my decisions today on 2016 data. I would like to have the 2017 data. Is your agency capable, over the course of the next two years, of getting to monthly reporting? What would be the path to getting to real-time monthly climate change-related data within your organization?

I appreciate that you might say “preliminary April 2018 data”, and then at a certain point in time—maybe a quarter or two quarters later—that preliminary data would become final data, so at least everyone has access to what's considered the best estimate at the time, until it becomes final. It's never final of course, because somebody might get other information that comes back to check it, but at least you can say this is how confident we are.

How quickly do you think your organization could get to monthly, or is that really a role that another agency should play?

Ms. Jacqueline Gonçalves: It's really challenging to get that kind of really up-to-date or I guess what you would call almost real-time information. We rely on some very involved and very heavy processes that actually require feeding information from a variety of sources, because it's not just the energy sector that feeds into this.

We have been trying to move the yardsticks in terms of getting data out in a more timely fashion. For example, this year we published preliminary data for the first time, but again, it's preliminary data that is about 18 months back.

We continue to try to push the envelope, but there are some real methodological issues that go into collecting that information in a way that would be—

Mr. Nick Whalen: Thanks, Ms. Gonçalves. If I had more time, I would have asked the same question of Mr. Peterson.

The Chair: You may have yet.

Mr. Falk.

Mr. Ted Falk (Provencher, CPC): Thank you, Mr. Chair, and thank you to the witnesses for coming here this morning. I appreciate the information you have shared with the committee.

I have lots of questions I will try to get through here.

Ms. Gonçalves, in your presentation you said 75% of greenhouse gases are attributable to the use of fuel, and that you get that information from fuel statistics. Do those statistics include also the types of vehicles and the types of engines that are consuming the fuel?

Ms. Jacqueline Gonçalves: I may have to rely on my colleagues from StatsCan to talk about what—

Mr. Ted Falk: Do you get your information from Stats Canada?

Ms. Jacqueline Gonçalves: Yes, we do.

Mr. Ted Falk: Really? Okay. Does the information that is being provided take into consideration the type of vehicle and the type of engine that is burning the fuel, or does it work strictly on volume of fuel?

Mr. Greg Peterson: The data we're referring to is from our annual report on energy supply and demand. In that report, we're looking at the production and use of fuel by fuel type and by user: electric versus oil versus—

Mr. Ted Falk: Right. We have just gone through a series of emissions tiers over the last many years where, effective January 1, we've moved to tier 4 emissions on commercial vehicles and automobiles. Your calculation of greenhouse gases is not based on the different types of engines or different tiers of emissions that are being installed on vehicles—which apparently reduce greenhouse gases—but simply on volume. You have a metric or a standard that you make and use as a conversion in calculating greenhouse gases, based on a litre of fuel.

Mr. Greg Peterson: To be clear, we're not making that calculation. We are producing the estimates of fuel consumption.

Mr. Ted Falk: Right, but in calculating greenhouse gas emissions, it's based on volume, not on type of engine or how it's being consumed. It's based strictly on volume.

Mr. Greg Peterson: In the data we're producing on energy consumption, that's correct.

Mr. Ted Falk: I don't mean to say that your work is bogus, but the information, or the conclusions being drawn with regard to emissions or the volume of greenhouse gases, is really not accurate.

Mr. Greg Peterson: Okay, but I would turn to my colleagues at the Department of the Environment and Climate Change, who are making that calculation based on the energy statistics we are producing.

Mr. Ted Falk: That was my original question. Do you make those calculations based on the amount of tier 4, 3, 2, and 1 vehicles that are on the roads today, or that are in industry, or the types of jet engines that are being used on commercial airliners, which all produce different amounts of greenhouse gases? Is all of that information factored into your production of greenhouse gas emissions data?

•(1040)

Ms. Jacqueline Gonçalves: There is a breakdown in the types of fuel consumption that are fed into the calculation of the greenhouse gas equivalents. I don't have the breakdown all the way down to the end, but it's certainly something we can provide to the committee.

For example, there are differences between transportation fuel consumption and stationary fuel consumption at facilities, whether it's the oil and gas industry, or whether it's another type of production.

There is a delineation in the type of consumption it is, within—

Mr. Ted Falk: Okay, thank you. You've kind of answered my question. You're not actually quantifying how many tier 4 emission vehicles are out there or how many pre-tier vehicles at all are consuming the fuel, which we're being told reduces greenhouse gases.

You're using a standard that, when diesel fuel is consumed, there's so much greenhouse gas emitted, and when aviation fuel is consumed, there's so much greenhouse gas emitted. It doesn't take into account at all the carbon emissions being produced by various types of engines. In other words, to me, when you're giving me a greenhouse gas emissions number, it's not accurate, because you don't take all the information into consideration. Yet you said that 75% of our greenhouse gases are contributed by fuel use.

Does your data also suggest that, as the price of those fuels increases, the behaviour of consumers changes? Does the volume go down based on price, or is the volume consistent and actually increasing every year?

Ms. Jacqueline Gonçalves: I'll just clarify how we collect the information and use it. We are responsible for producing a national inventory that actually accounts for all of the potential sources of greenhouse gases and greenhouse sinks. When we collect the information on a national level, we are looking at collecting information that essentially covers all of the possible sources.

What I can't give you an answer on right now is the level of delineation or how detailed within that particular sector, how far down we go. What we do capture is how much has been emitted and how much is a sink. I'll have to ask my folks who actually work with the data.

Mr. Ted Falk: Can you provide that data to committee, because I think it's very—

The Chair: We're going to have to stop there.

Mr. Ted Falk: I haven't even gone to the stats guys. I wanted to get on record how heavy-handed they are.

Voices: Oh, oh!

The Chair: I don't make the rules, Ted; I just enforce them.

Mr. Whelan, we have a couple of minutes left, and then we have to stop.

Mr. Nick Whalen: Thank you.

In terms of the emissions data, since it's a hot topic, there are lots of different vehicles on the road burning fuel, and you know how much fuel, because that's accurately recorded. What type of confidence interval can you give us on how much greenhouse gases? It's not really that you're accurate, but how accurate are you? It seems to me that we're getting carbon dioxide and some mix of carbon monoxide, which ultimately degrades and it's all greenhouse gases. How accurate can you be based on your knowledge of the complex system that Mr. Falk described?

Ms. Jacqueline Gonçalves: On the historical data, we're looking at gathering information about actual emissions, and we model where we need to, but essentially we're gathering information about what was actually emitted from those sectors that were captured.

In terms of the degree of confidence, because we look at it every year and we're constantly revising to make sure that we've captured all of the information that is available, the level of confidence improves with every year, I guess you could say, but I can't give you a number.

Mr. Nick Whalen: Mr. Peterson, when somebody says there's 100 million tonnes of CO₂ this year, is that 100 million tonnes plus or minus 2%, plus or minus 10%, or plus or minus 20%? You're the stats guy, and if you don't know, can your department provide the answer? It seems to me that it's a number plus or minus some percentage, and that's what we have to live with.

Mr. Greg Peterson: It'll be hard for us to assess the quality of data that we don't produce, but we'd be happy to provide information on quality indicators relating to the energy statistics that feed into the work of my colleagues.

•(1045)

Mr. Nick Whalen: Well, this is great. If we had the types of data this study is hoping to elicit out of government, would that improve the accuracy of, or would there be a possibility that could improve the accuracy and the confidence in, the ultimate data on which government is making its decision?

Mr. Greg Peterson: That's a complex question. There are many factors that will affect the accuracy of the data that....

Mr. Nick Whalen: Never ask a stats guy a political question.

Mr. Greg Peterson: Essentially, the quality of the data that we're going to release will largely be a result of the data that feed into the system. In general, the higher the response rate, if we have more respondents, the better the quality of the data. The more timely we can get the information that we need, then the less we have to impute from missing data.

Data quality is a very multidimensional concept and we'd be happy to share with the committee how we deal with data quality, but it's not as simple as saying, if A then B.

The Chair: Thank you. We're going to have to stop there.

To our witnesses, we appreciate your taking the time to join us today. We don't have enough time to get into everything, unfortunately, but that was very helpful.

The meeting is adjourned.

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