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Chair

Mr. James Maloney

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● (1555)

[*English*]

The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)): I would like to call the meeting to order. We're starting a little bit late. We had a vote to deal with and a special occasion in the House of Commons today, which was unique, unfortunately.

We have our first set of witnesses today, but we also have three temporary members sitting in today. I'd like to welcome them: Mr. Stetski from the NDP, to my left; Ms. Dhillon down to my far right, who is sitting in for Mr. Tan; and Mr. Arnold who is sitting in for Ms. Bergen, who had to step out. I'm advised that we can proceed in her absence and that she will return shortly. So thank you to the three of you for being here today.

We have three witnesses today. Frank Des Rosiers is the assistant deputy minister of innovation and energy technology. With him is Nicole McDonald, acting director general of CanmetENERGY in Devon, and Terence Hubbard, director general of the petroleum resources branch, the energy sector.

You are the first set of witnesses for a study we are embarking on dealing with the future of Canada's oil and gas, mining, and nuclear sectors, dealing in particular with innovation, sustainable solutions, and economic opportunities.

The three of you have kindly agreed to be here today to provide us with some evidence and to educate us on the oil and gas sector. Thank you very much.

Mr. Des Rosiers, you have the floor.

Mr. Frank Des Rosiers (Assistant Deputy Minister, Innovation and Energy Technology, Department of Natural Resources): Thank you so much, Mr. Chair. It's a pleasure to be here and launch this particular study. We do have a short deck to present, which is on the screen, and I will provide a brief commentary around it. I understand that you have copies of it as well.

I hope to cover three key elements in this overview: first, to do a quick overview of the oil and gas sector in Canada, then talk about the importance of innovation in that space, and lastly speak about some actions taken by the Government of Canada relating to innovation and oil and gas.

If I may kick off with the overview, on slide 3 and others you will find some numbers and figures, which I will analyze succinctly.

First, in terms of the resource endowment of Canada, both in oil and gas, Canada is blessed with very large resources. In oil, we are blessed with the world's third-largest resource endowment, after Venezuela and Saudi Arabia. Similarly, with natural gas, we also have a very abundant supply, which actually keeps growing as technology progresses in that space.

The oil and gas sector represents an aggregate close to 8% of GDP, $137 billion of annual exports, a large amount of investments as well, and 200,000 in direct employment across the country. It is a fairly sizeable source of wealth.

Needless to say, in the current context, the price environment is rather challenging for commodities. We all watch this in the news regularly, and that's been very true lately on the oil side in particular, as we've seen significant price drops during the past year.

In the bottom right corner, you will see a picture that shows the trend over the medium to long-terms. We've seen on one hand a significant increase in renewable energy happening in Canada and globally. If we look at some of those estimates from the International Energy Agency and other world-leading bodies, we still have an expectation that oil and gas will represent a significant part of the global energy mix.

[*Translation*]

The next slide shows the importance of innovation in the sector, both in terms of improving Canada's environmental performance and in terms of reducing costs and increasing productivity.

One interesting thing to mention is that many of the greatest innovation opportunities have a dual effect. There is an effect with respect to both reducing greenhouse gases and reducing production inputs. This is especially the case in the oil and gas sector because many of these opportunities relate to reducing the energy to extract the resource or to process it into derived products.

The evidence in this case is particularly striking. It is also important to mention that there are opportunities not only domestically but also in exporting these technologies abroad.

The global clean technology market is growing rapidly. According to the latest estimates, it will be worth about $2.5 trillion, or 2,500 billion, by 2022. This represents significant export opportunities for our companies, which are world leaders in many areas.

It may also be important to mention that many of these activities, both in the production sector and in the development of these technologies, are carried out in remote areas in Canada. This may well generate opportunities for our communities, including indigenous communities.

[*English*]

If we look at the recent history of the oil and gas sector in Canada, it's already known to be a knowledge-intensive industry with lots of advanced technology, but also a lot of know-how that is worth acknowledging. We've seen this, whether in the oil sands or in many other dimensions of the oil and gas sector.

You see here on the slide a yardstick of the performance improvements over the past 20-year period in terms of GHG emissions, where we have seen reductions in the order of 30% of the GHG emissions per barrel, but also in terms of water use, where we've seen very significant reductions in the use of fresh water in production.

Another domain that perhaps is less known among parliamentarians and Canadians alike is the expertise that Canada has in carbon capture and use. Canada is seen as one of the top nations in not just large scale deployment of those technologies—we have 4 of the 15 largest large-scale projects in the world—but also in significant expertise in helping the future technologies in that space.

On slide 6 I have tried to capture for you a sense of those areas where we see the greatest potential for technology development. Starting in the oil sands domain, I thought of using, as an anchor, the recent report published by the Council of Canadian Academies, which came out less than a year ago. It showcased six of the most promising technologies in this space. I could describe a couple of those that are particularly significant in changing the landscape, both in terms of performance and cost.

The first one is around the use of solvents, basic extraction technologies, which have the potential to reduce GHG emissions by the order of 50% and reduce by 30% the capital cost requirements to develop such resources. Another one that the Council of Canadian Academies highlighted is the direct contact steam generation technology, which actually is being developed in our CanmetENERGY facility here in Ottawa, working closely with Suncor, which is a major oil producer out west. There, the potential for GHG reduction is in the order of 70% to 80% and the cost reduction per barrel between $2 and $8, so it's also quite significant.

Beyond the oil sands space, methane is another area where we see significant potential. It does represent about 10% of global GHG emissions in the country, for the simple reason that from all those gases that are either flared or vented in the country, the methane emissions have a much more potent impact in terms of GHG emissions by a factor of about 32 times greater than CO2. Every bit of progress we can make with regard to methane reduction has a very significant impact on our greenhouse gas emissions pattern.

There the good news is that there has been significant progress in technology development to capture those gases and hydrocarbons, and finding ways to avoid those emissions into the atmosphere. This is a key priority for the Government of Canada and the Government of Alberta, which has already gone public about its commitment to reduce those emissions by the order of 45% between now and 2025. Many of our partner countries, like the U.S., have put methane at the top of their list for reductions because the payback from that is very compelling. We think this should be a priority area.

Other areas that are actively being pursued concern the use of renewable energy as a source of power for the extraction sector, whether it's bioenergy, solar, or wind. There is a lot of activity in that particular space.

I've mentioned before the strength that Canada has in carbon capture and use. Again, this is an area where we do considerable work with our university and industry partners to further that technology and lower the cost, which is our main challenge in this space.

● (1600)

[*Translation*]

In the next slide, we highlight how important it is that this research be conducted in partnership with industry and academia. This is an opportunity to draw on the expertise of all these stakeholders and reduce the risks surrounding the development of such technologies, which are complex and require substantial expertise from all sides.

In our view, another opportunity is to seek partnerships abroad. An agreement was signed as recently as last month at the meeting of the North America energy ministers. The U.S., Canadian, and Mexican ministers met and agreed to establish a closer partnership in the coming years precisely to carry out the development of such technologies, both in the fossil energy sector and in green energy and renewable energy in Canada and North America.

[*English*]

The following slide gives you a bit of a snapshot. I do acknowledge that this is very succinct, but I understand that the committee will hear from other witnesses over the coming weeks.

We'd like to acknowledge the leadership taken by the industry, particularly the members of COSIA, the Canadian oil sands industry alliance, who have been somewhat bold in their vision of bringing some technology, initially developed separately, to be shared among the companies involved in the space. That accounts for about 800 technologies worth over $1.3 billion. We think this effort should be applauded and pursued with vigour by the industry, especially now that we face such a predicament in terms of the environment. Now is the time to pursue those efforts. We have seen some recent announcements, which will be referenced in the presentation.

The next slide emphasizes some of the contributions from the Government of Canada in that space in two orders.

The first is by using our scientific expertise, and we're fortunate to have present today one of our directors general, Nicole McDonald, from the CanmetENERGY Lab out in Devon, Alberta, who is leading a lot of the work around that research. We also do a lot of that work here in Ottawa in our facility at CanmetENERGY, and we have a third lab in the Montreal region in Varennes. Those labs obviously deal with oil and gas, but also the broad spectrum of energy R and D in the country. They have significant expertise in that space

The second tool that I want to emphasize is some of our programs in both NRCan and SDTC, to name those two. They have been committing a significant amount of resources over the past years to developing those technologies across the country.

If I may, Mr. Chair, I will close my remarks by emphasizing one announcement that took place in Paris at the COP 21 meetings back in late November when Prime Minister Trudeau was accompanied by 19 other world leaders to commit to Mission Innovation. There were so many announcements happening during this time period that it was hard to keep track of them all, but this one was actually quite significant.

This announcement committed those 20 nations, which included not just Canada, the U.S., and Mexico, but also Germany, Italy, France, China, Japan, South Korea, and pretty much all of the key nations involved in energy R and D on the global stage, to do three things. The first is to double the level of energy R and D over the next five years. The second is to bring patient capital from the private sector to the mix—and there Bill Gates showed some leadership in committing some of his own money but also brought along a number of large investors from around the world to contribute to funding in this space among the signatory countries, which include Canada. The third is to encourage more collaboration across borders precisely to deal with those advancements of transformative technologies that are so challenging to develop. These nations felt that this was one of the most powerful vectors to get our nations a step closer to meeting the Paris ambition that had been laid out by those nations.

With that, I will turn the floor back to you.

● (1605)

The Chair: Thank you very much. That was very helpful and informative.

I'm now going to open the floor to some questions.

I'll start with Mr. Harvey.

Mr. T.J. Harvey (Tobique—Mactaquac, Lib.): First of all, I'd like to thank all of you for coming and taking time out of your schedules. Along with the chair, I, too, apologize for the fact that we were late getting started today.

I want to lead off by talking a little about something you put in one of your slides, which is that the oil and gas sector is a key pillar in the Canadian economy, representing close to 8% of Canada's GDP and $137 billion in exports.

I think you know that the spirit of this study is definitely along the lines of looking to see how we can help position this sector to move forward in a collaborative fashion to allow for its development at a time when it seems to be struggling.

My first question for you both is how do you feel that government involvement in clean technology can help generate opportunity and job creation in both the natural resource and technology sectors?

Mr. Frank Des Rosiers: The committee member is right to point out the sheer significance of this industry, and it's sometimes tempting to be distracted by some of the ups and downs in the short term. The government has committed in recent pronouncements to investing significant amounts of monies in that space, using a variety of instruments, starting with expenditure measures. There's $200 million per year over four years that has been committed for innovation in natural resources in the energy, forestry, mining, fisheries and oceans, and agriculture sectors.

The second source of funding is $100 million a year over four years in support for clean-tech producers. That should certainly give a significant push to advancing this innovation agenda. The government has also committed to looking at the variety of measures—regulations, tax measures, the green infrastructure funds, the $60 billion over ten years, and $20 billion for green infrastructure—which should meaningfully contribute to that particular space in creating that demand pool.

That set of instruments combined should provide some significant push and pull for the sector, recognizing that global markets still have to go through their own gyrations, which are well beyond the control of Canada. There we'll have to keep our eyes on the ball in the medium to longer terms, I would submit, to see how the prices evolve. At least in terms of the controllable elements, the government is determined to take more action.

● (1610)

Mr. T.J. Harvey: What other benefits do you think this type of investment could have for the natural resources sector and, specifically, the pillar of oil and gas? That's what we're leading off with as the first pillar. What types of benefits do you think we can garner either directly or indirectly from this type of investment in clean technology and green infrastructure?

Mr. Frank Des Rosiers: I was at the GLOBE conference just this past week, where there was significant interest on the part of those companies to team up and use some of those funds and also to leverage private sector funding and university funding to advance that research.

I do believe we have a significant capacity to respond to those programs that are to be announced over the coming years. I am fairly confident that there's enough responsive capacity out there to bring about the kind of technology we're looking for.

One has to be cognizant of the fact that for many of the technologies I've described, especially the transformative ones, we're talking about it taking many years to bring them to market and to be scaled up. While it does depend on their level of complexity, it would not be uncommon to talk about five to seven years or so to bring these kinds of technologies to market and then to test them on a larger scale and, eventually, to deploy them broadly. So, it would take five to ten years out on the horizon to see those applied on a large scale, but there are also technologies with shorter implementation times for some of the measures that could be looked at. Methane is one example that I have showcased. The technologies are actually available and could be deployed right away and benefit the oil and gas sector.

Mr. T.J. Harvey: On page 8, one of the bullets said, “In current price environment, industry is being challenged to maintain investment in R&D”. Do you feel that this is possibly the most important time for government to invest in new technology to help further R and D development within this sector?

Mr. Frank Des Rosiers: Yes. From the government's side, the intentions have been stated clearly. From the industry side, it is rather challenging right now to free up cash flow to do this. But, absolutely, now is the time. Having listened to some of the industry leaders in the space, I think they do acknowledge both publicly and privately that now is probably the perfect moment to double up innovation efforts, though it is challenging for them to free up the necessary resources to do so.

Mr. T.J. Harvey: Okay. I have one last question.

On page 10, one of the bullets specifically talks about Canada being one of the 20 countries that will double spending on clean energy R and D over the next five years, working closely with the private sector to encourage investment through the Breakthrough Energy Coalition, and to increase domestic and international energy R and D collaboration. How do you feel that increased domestic and international collaboration can help further R and D within the sector?

Mr. Frank Des Rosiers: As I mentioned before, a lot of the technologies involved there are complex, so we need to be able to leverage some of the expertise and the monies to carry on some of those demos. To give you an example, a large scale demo in the oil and gas sector can range very quickly between $50 million and $125 million a pop. To the extent possible, when we can do those large-scale demos, for instance jointly with the U.S., Mexico, or other leading nations, it's a chance for us to lower the risk and to be able to pursue more of those technologies and bring them to the market-place.

I have to say that perhaps thanks to the Paris discussions that took place during the past months, there's a sense of celerity and understanding of the need collectively to accelerate the pace of those efforts. It's not just true in North America, but also true in Asia and Europe. The willingness to collaborate is stronger than ever. Since the December discussions, we've seen a lot of interest being shown by our partner countries, who want to team up with Canada and our firms to do more of that research. I'm fairly hopeful as the months and years go by that we'll be able to forge more of those cross-border research calibrations and be able to advance more rapidly through the innovation spectrum with some of those technologies.

● (1615)

The Chair: Thank you very much. That's Mr. Harvey's time.

I understand, Mr. Barlow, that you're going to take the floor now.

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

I want to thank all of you for coming here and taking time in your schedule. We were late, but I think it was for a fantastic reason, and as parliamentarians we will probably all remember the time we had in the House today.

It's great to have a fellow Albertan here. Ms. McDonald, thank you very much for coming and bringing this crazy weather.

I was happy to see in your report something that we do a very poor job of as a government, and in industry for that matter. For example, the Prime Minister is going to Washington this week and will talk as a guest speaker with a group that calls our oil industry and our energy sector dirty business. The information you have reiterates the fact that we have among the cleanest energy sectors in the world. Here I look at the 30% reduction in GHGs since 1990.

I'm sure, Nicole, you may want to touch on this as well if you have a chance, or if my colleagues have a chance to go to see the oil sands in northern Alberta.

There are no tailing ponds anymore, and there are no flare stacks. However, we do a horrible job in telling the story that we have in our energy sector.

What kind of time is taken in your department in marketing these kinds of statistics? I know you can't speak for what the Prime Minister will be doing in Washington in this week, but I think a big change for us would be to tell this story of Canada's record in innovation and environmental stewardship. Is there anything going on toward marketing these numbers?

Mr. Frank Des Rosiers: That's a very good point. Perhaps it speaks to the nature of our cultural fabric. As Canadians, we tend to be humble, but humility sometimes may not be such a good thing when it gets to promoting some of our successes in advancing the technology in this space. There seems to be a bit of a lag between where the industry and the technologies are at now and the perception not just within the Canadian public, but among some of our external clients.

I have to say that the efforts over the past should certainly be pursued and probably be enhanced to showcase some of those initiatives. I'm thinking particularly of the work of some of our small and medium-sized firms active in this space, many of which have been recipients of some of our support and who have found some of those great technologies. I'm thinking for instance in terms of water technology. Gas flaring is another example that is coming to mind. We are truly world leaders in that space. We did some sessions for instance down in Washington working closely with our mission there to bring some of the companies and let them share their practices. We also did quite a number of sessions this past week at the GLOBE conference in Vancouver, where we brought some Canadian companies to connect with South Korean firms and Chinese firms. There were some B2B sessions, but also some more open sessions to share the results of their work. There is a large-scale exhibit also taking place there. Those events are great because we had over 50 countries in attendance, over 2,000 delegates, and 10,000 or so attending the showcase of those technologies.

Those are venues where it could be done. I would agree, Mr. Chair, with the committee member that this is an area where we could do better. We should definitely work also with our Global Affairs Canada colleagues and the Canadian technology experts that we have around around our missions to get the message out.

Mr. John Barlow: Thank you. I would just mention, as a comment on this, that the tone right now from our government is the opposite of what you're saying. You're saying that we're having to delay everything, that we need to find social licence and have more consultation, whereas these numbers show that our record is extremely strong. I would encourage the government to spend some time changing the tone and narrative of what they're saying right now, because uncertainty in this industry is certainly not helping.

The information you presented showed that the oil and gas industry provides close to 8% of GDP and 200,000 direct jobs, not indirect jobs. Have you done anything concerning what the impact would be on our GDP and jobs if we replaced the 630,000 barrels a day that we're importing from foreign countries with domestic oil through something such as the energy east project? What would the impact on our GDP and jobs be?

● (1620)

Mr. Terence Hubbard (Director General, Petroleum Resources Branch, Energy Sector, Department of Natural Resources): Thank you for the question.

I don't think we have a specific number for the impact on GDP or on jobs related to oil production that could be realized by displacing imports into Canada.

I would note, though, that Canada is a large and growing exporter of crude oil. As the statistics in the deck show, the oil and gas sector is a significant part of Canada's economy and supports a lot of employment across the country.

As we move forward and look at opportunities to continue to support and grow this industry going forward, we'll continue to support jobs in this sector.

Mr. John Barlow: I would suggest that this might be something to look into, if you have a chance. A study or some sort of work that could be done to show the impact would be helpful.

I was really excited to see the numbers showing what has been achieved through research and development. I think that achievement is fantastic. I'm just wondering what partnerships there are, or is there a partnership with the private sector for that R and D? Are those federal dollars being leveraged with the private sector to work on some of these innovative ideas, not only in Alberta but also across the country?

Mr. Frank Des Rosiers: Absolutely. I would say that every single project we're leading in this space is done in collaboration with industry. The reason for that is twofold: getting leverage and making sure we have an impact, but probably more importantly, for relevance. There's no point in the lab that Nicole directs, for instance, carrying out research in some kind of arcane domain that's not going to lead to anything. Making sure there is adoption at the end of the road is for us a key measure of success.

Partnering up early on with industry and universities, which have significant capacity in the space, is in our view a way to ensure success in adoption. Similarly, when we provide funding to our own programming, to SDTC and others, the benefit goes directly to those firms.

One of the key variables for the selection is leveraging and collaboration with others, as we want to make sure that people work together, so that we don't have half a dozen people working on the same widget and competing with one another. We have limited star power in the country to advance such research. We want to do it together, to the extent we can.

The Chair: Thank you.

Mr. Stetski, we go over to you.

Mr. Wayne Stetski (Kootenay—Columbia, NDP): Thank you again for being here. It's a very important topic for Canadians.

Specific to crude oil, what measures does the department have in place to encourage value-added processing and job creation in Canada?

Mr. Frank Des Rosiers: One of our four key domains of research on the oil side is upgrading. The Government of Alberta has stated that this is one its top priorities, but it also holds interest in a couple of ways. You have mentioned the benefit in terms of job creation and creating investment opportunities, but it's also an opportunity to free up our pipeline network, because this upgraded oil is viscous and therefore easier to transport within our pipeline system. It thus also has significant benefit in that regard.

It's also a chance for us to get more value out of this product on the export market and to diversify our market base of refineries that can take our crude. This has been an area of active research, in close collaboration, I would say, with Alberta Innovates, which is the research arm of the Government of Alberta. They have been very good partners for us in doing some of this work.

Mr. Terence Hubbard: I would also add that while Canada is a large net exporter of crude oil, we're also a net exporter of petroleum products. We currently produce in Canada more petroleum products than we consume, particularly on the east coast, in Atlantic Canada.

Obviously, as we go forward and look at opportunities and the innovation agenda going forward, we'll help support the development of a robust and competitive industry here in Canada. We talk about improving environmental performance a lot, on that side of things, but innovation is a key driver in reducing cost to ensure that we can develop this industry here in Canada.

Mr. Wayne Stetski: Does the department actually have a mandate to try to keep jobs in Canada, then, to keep the oil in Canada and deal with it here rather than ship it away?

● (1625)

Mr. Terence Hubbard: Our mandate within the Department of Natural Resources is to look at the sustainable development of our resources. It's to look at ways to develop these resources and support competitive industry in Canada, but to do it in such a way that's environmentally sustainable going forward. We do have that dual role, dual mandate.

Mr. Wayne Stetski: For renewable and green energy sources, innovation and new energy technologies will continue to be very important, of course, when it comes to developing all of our natural resources. If we're being sincere, we should be trying to do it in an environmentally sensitive way. What role do renewable and green energy sources play in accomplishing that goal of environmental sustainability in industry?

Mr. Frank Des Rosiers: As it relates to broad energy R and D, we put significant efforts around renewable, whether it's on the smart grid or whether it's on the integration of renewables within the grid, which is a key challenge for utilities around the country. There's also developing our biomass. We have a very large amount of biomass coming from out of agricultural production or forestry, which ought to be put to good use. All of those are important drivers from a broad energy R and D perspective.

As it relates directly to oil and gas, as I referenced before, one of the most promising avenues is to look at the use of those renewable resources to power the extractive industries. There have been lots of efforts to look into the use of wind power in particular, and solar and geothermal, which could be attractive options. We do a significant amount of research out of our own laboratories in the use of bioenergy and bioproducts, with FPInnovations and the industry directly. This is still nascent, to be clear, but it could have nice potential for both industries to generate value for the forest producers and also a chance to green the oil and gas activities.

We still are some years away from getting some of those bioproducts into the mix, but we think it's well worth investing our efforts into.

Mr. Wayne Stetski: You are working toward a more renewable energy future, then?

Mr. Frank Des Rosiers: Correct.

Mr. Wayne Stetski: Okay.

Oil sands and heavy oil projects face some significant disadvantages in the global marketplace—significantly higher costs of production, larger environmental footprints, and difficulty accessing wider markets, to name just a few.

What kinds of innovations are in the pipeline—excuse me for the pun—that will help us to offset those disadvantages? If there aren't any, are there limits to how much technological innovation can help to close that gap and put oil sands and heavy oil on a level competitive footing with other global oil sources?

Mr. Frank Des Rosiers: The committee member, Mr. Chair, is right to point out some of the shortcomings or challenges we face.

Before I answer the question, it's also worth remembering that Canada also has competitive advantages with regard to its oil production. We are a stable economy, we have plentiful supplies, and we're steady suppliers. We have a lot of strengths in our game that we shouldn't lose sight of. We only need to be reminded by looking at those other world producers out there. Whether it's in Iraq or in Venezuela, there are a lot of trouble spots where that oil is being produced. It's just something well worth keeping in mind.

On the dimension you touched on with regard to progress, cost reduction is at the top of the priority list for the industry. So is addressing environmental performance. I think there's an acknowledgement, now more so than ever, from industry leaders that we need to act on both fronts. There's also very strong support on the part of the provinces. We understand that we need to move the yardstick significantly in terms of environmental performance and cost to keep the industry running not just for the short-term environment we're in but also to make sure we're competitive in the long haul.

The kind of technologies I've described, the so-called transformative technologies on the extraction side, are in my view probably the most attractive. Right now the industry is more focused on looking at marginal or incremental improvements to costs of production, which are certainly well worth looking into, in terms of project management, marginal improvements to use of energy, and production processes.

To address the gist of your question, there's been more effort lately, during the past year or two, to look at more of those transformative technologies that would give us a step change in terms of both environmental performance and cost. The good news is that we have in our arsenal, if I may say, half a dozen or so technologies that could get us there and bring us to a significantly lower cost of production and lower emissions. Water should not be lost in terms of that equation; it's also a top priority for the industry.

That line of sight is there, but again, it will take us many years to bring those technologies to market. We are committed to do our part as government, and the industry appears to be also very much onside to pursue those efforts.

● (1630)

The Chair: Thank you.

I've been pretty generous on the time so far. I'll have to start getting a little stricter here.

Mr. Serré, over to you.

Mr. Marc Serré (Nickel Belt, Lib.): And you're going to get stricter.

The Chair: I know it's a bad time to say that.

[*Translation*]

Mr. Marc Serré: Thank you, Mr. Chair.

I would like to thank the witnesses who joined us here today, of course.

You gave an excellent presentation. Your information is relevant. This gives us a good foundation to build on and move forward. As you mentioned, and as we know, the price of oil has really dropped in recent years and that is a challenge for the industry and for us as a government. I would also like to make the following clarification.

[*English*]

I want to comment on the earlier remarks about our Prime Minister. I'm very proud of the efforts that our Prime Minister and the government have made. We have been in government now for five months, 150 days or so, and we participated heavily in COP 21.

As you mentioned earlier, our Prime Minister is visiting with the U.S. President this week to dialogue, to grow our economy, to put forward the initiatives that we talked about in a positive way. It's the first time this has happened in 12 years. We have a lot of success stories in all of our natural resources sectors that are very positive.

We also had a first ministers' conference for the first time in seven years. Now you also mention the energy that we had for the Canada, U.S., and Mexico meeting. There's a lot of good collaboration happening. It's something that we could build upon, as you mentioned earlier with regard to the innovation sector.

I look at the reports that you have identified here, and I appreciate you condensing a lot of this. Earlier, you mentioned a clean technology fund of about $100 million. You also mentioned another fund that was for all natural resource sectors. You also mentioned tax measures. Are you able to summarize those three elements and what has been done in the last four or five years for the committee? Do you have all that information to provide to us?

Mr. Frank Des Rosiers: Sure. These were explicitly stated in the government's intention going forward. There have been no announcements yet on the specifics of how those monies will be deployed, but the intention is quite clearly to give that extra boost, which is significant in terms of dollars. The fact that it's multi-year funding should also give a degree of certainty to the actors, and as you mentioned, to our provincial partners, to advance this.

I would foresee that, coming out of the first ministers' discussion in Vancouver last week, this will be part and parcel of our dialogue with them. Over a six-month time period, we've committed to solicit and consult broadly among the public, industry, stakeholders, and the provinces to make sure that we use those monies wisely.

The government had the choice of going fast to try to get it out the door quickly, or to do it well, if I may say so, and as a result, to take a bit more time to consult and make sure that there was alignment. At the strategic level, there's a degree of alignment between the federal and provincial parties that has probably not been present for many years now on the issue of climate change, and the energy policy and innovation that go along with it. It's an opportunity for the country to be sure that we use those resources smartly. In short, there is no announcement yet, but there is a significant degree of engagement and consultation.

I'd like to point out that Minister Carr has already carried out a number of round tables around the country. It is his intention to pursue those engagements broadly, not only with provincial partners but also with industry leaders, indigenous leaders, and municipal partners to seek people's ideas and views.

Mr. Marc Serré: Thank you.

I agree with what was said earlier about our commitment. You mentioned CanmetENERGY as a vehicle for a lot of R and D. What amount of dollars have we invested in R and D?

I'll give you an example. Australia spends $2.7 billion for R and D in the mining industry. In Canada we used to spend about $800 million, and now we're spending about $500 million in the mining sector. Could you summarize what we have done and what we have committed to, moving forward, in the oil and gas industry? That's one question.

The three of you probably have decades of experience in the field. When we look at all these conferences that are happening within Canada and worldwide linking the economy and the environment, those discussions need to happen as one. From your experiences in the area of R and D, are you able to look to non-partisan recommendations about where and how R and D monies should be invested when we look at the elements we just talked about? Could you make some specific recommendations?

● (1635)

Mr. Frank Des Rosiers: The amount of money being devoted comes from different programs and agencies, but we thought the numbers I captured on slide 9 were probably the best summation of this: $365 million over the past 10 years is pretty significant, keeping in mind that those dollars are significantly leveraged from industry. It would be pretty difficult in the space to have leverage of at least 2:1, if not 3:1, for those monies. When we get further down to the deployment stage, that multiple could be even higher, 4:1 or 5:1 in the case of large-scale demos, for instance.

As for energy research priorities, yes, we do have in every one of our research activities a fairly well-established process whereby we solicit input from industry, provincial partners, university partners, and our expert scientists within the federal family to identify what those research priorities ought to be. Perhaps I could ask Nicole to describe that more fully. I guess what's new is that we have also now extended the discussion to some of our international partners. Especially during the past year and a half or so, we've had very close dealings back and forth with the U.S. Department of Energy. We have a very significant research establishment. Just to give you a ballpark sense of the dollars involved, we spend about $6.4 billion on energy annually in R and D. The United States shares many of the same challenges we do and is very keen to partner with Canada, which is seen as a leading nation in that space. We're quite enthusiastic about the prospect of doing more and more of those research projects together.

The Chair: Perfect timing, you're right on the buzzer.

I'm sorry, Ms. McDonald, but maybe we can come back to you later on today.

Now we're into round two and five-minute segments. Ms. Stubbs is up next.

Mrs. Shannon Stubbs (Lakeland, CPC): Thank you, Mr. Chair.

Thanks, all of you, for being here and apologies again for the delay.

I know it's going to come as a total shock to my colleagues that I am going to try to focus on the importance of the oil and gas sector to Canada's economy overall, which I want to thank you for underscoring so substantially in your opening presentation. I also want to thank you for highlighting Canada's global leading role in developing innovation and technology that reduce greenhouse gas emissions, increase production efficiencies, lower costs, and make us a beacon for innovative and technological development of energy resources.

I want to thank you too for noting the critical role of the oil sands in Canada's overall energy picture that will enable us in the future to meet the world's growing energy demands as we continue to increase our responsible development of that resource as well as other crude oil resources.

I thought maybe we could try to get into a few more specifics about exports and imports. I'll just give you a couple of questions in a row and then we can figure out how we're doing for time. Maybe the chair can give me a heads-up as to where we're at.

In terms of exports, are you able to give us the breakdown between crude oil, synthetic crude oil, bitumen, natural gas, electricity, and refined petroleum products? Can you give us an estimate on what those accompanying export revenues are and the breakdown of which countries those exports are going to?

Can you also give a little more specifics on the countries Canada imports its energy products from and their related breakdowns? I would be especially interested in looking for facts relating to the oil and gas imported for use in eastern Canadian refineries. I agree with you that Canada has the world-leading skills and technology to continue to provide energy to the world. I wonder if you have any estimates or predictions of global energy demand, and also about the potential value of our exports to other countries, if we are able to achieve access to diverse markets beyond the U.S.

● (1640)

Mr. Frank Des Rosiers: My friend next door amazes me with all those numbers. I think, Mr. Chair, we could commit to reporting back to the committee with some numbers. Yes, we do have those statistics the committee member is talking about in terms of exports and imports by country. We could do a nice little summary table there and similarly in terms of global energy demand.

Mr. Terence Hubbard: Certainly, we'd be happy to get back to you on some of this, but—

The Chair: I was going to say that maybe it's a good idea, because unless you can summarize your comments in less than two minutes, we're going to have no choice.

Mr. Terence Hubbard: I could respond to some of the key highlights there, though, in terms of some of the questions you asked.

In terms of crude oil exports, Canada exported over three million barrels per day of crude oil last year. Ninety-seven per cent of that went to the United States. In natural gas, we produce about 13.7 billion cubic feet per day. A little over 8 billion of that goes to the United States in terms of exports.

We import a little over 700,000 barrels of crude oil per day into refineries in eastern Canada. A little over 60% of that comes from the United States. Other countries that it comes from include the U. K., Norway, Saudi Arabia, and Iraq, a number of different countries. It all depends on global markets, market conditions, prices, and quality differences for those types of crude in terms of where refineries choose to purchase their crude oil.

Regarding global energy demand predictions, there were some numbers in the presentation, but generally, numbers from our colleagues at the International Energy Agency continue to see global energy demand continuing to increase going forward. That provides a real opportunity for us here in Canada, in the sense that there will be continued opportunity into the future for the development of our oil and gas resources in order to play a role in meeting that global demand.

The Chair: Thank you. We have about 10 seconds left, so we'll move on.

Mr. McLeod, you're up. You have five minutes.

Mr. Michael McLeod (Northwest Territories, Lib.): Thank you, Mr. Chair.

Thank you to the presenters today. I appreciate the information you're bringing forward.

I'm from the Northwest Territories. The Northwest Territories, as you probably know, are still relatively pristine. There are diamond mines and there is oil and gas exploration that has happened there for a number of years. We've seen a lot of boom and bust cycles.

Of course, the people in the north have always expressed concern when it comes to projects in regard to making sure that the environmental aspects are scrutinized very closely. At the same time, job creation is also very important to us. We're quite fortunate to have diamond mines that are providing a lot of opportunity for us. Half of the population of the Northwest Territories is aboriginal, so including aboriginal people is also very important.

I think the key to moving forward on a lot of the projects is having a trustworthy regulatory process. In the Northwest Territories, I think we have a model that people in other jurisdictions can look at, a model that does all of that and captures all of the areas that we want to make sure are covered.

While we welcome the opportunity to see our resources developed, we are still challenged by a number of factors. They are factors that can be dealt with. We have a lot of resources in terms of diamonds, precious metals, emeralds, and oil and gas, all these things that have not really been explored to their fullest yet. We don't really know their potential. The reason for a lot of the exploration not happening is that our transportation infrastructure in the Northwest Territories is not yet developed.

There is an opportunity to develop a road down the Mackenzie Valley Highway. That would open up the whole valley to oil and gas opportunities to help lessen the costs of building pipelines and for tourism. A lot of economic opportunities would come as a result of it. There is an opportunity to build a road into the Tlicho area, which would allow for the community to be connected. Gold mines that are working in the area would be able to make their projects viable.

We've also been looking at a road to the current diamond mines, which would allow the mines to explore other pipes in the area that don't produce as well or wouldn't have the returns, but a road in the area would certainly make it more viable. This road could also connect with Nunavut, which is very much in a position where all of their resources are trapped unless they get a road. They have talked about building a road into Grace Lake, which would open up their part of the country to creating opportunity and jobs. That's something that's really important for us to see.

I wanted to ask you about how you see this government's role in moving this investment in transportation infrastructure in the Northwest Territories—I'm talking not only about the Northwest Territories, but about Nunavut—as a priority.

● (1645)

Mr. Frank Des Rosiers: Transportation is a little beyond my area of expertise.

Perhaps the others could solicit witness views on this. There is a significant infrastructure fund that has been set aside. Whether this will address those particular demands, I wouldn't want to mislead the committee members in any kind of way. It's not my area of activity.

One thing I'd like to point out as it relates to energy R and D and the kind of mining projects you've described, which I think would be of particular interest, is looking at both increasing the use of renewable energy to power some of those mines, which in most cases are upgrades, and using wind power as a key source of production. Another area that has been quite promising in our view is looking at the energy input for the production of those mines. After labour it's the second highest input cost for the activities of those mines. Industry has conveyed to us a keen interest to look at novel ways to reduce the energy demands, particularly in terms of ventilation where a lot of wasted heat is being produced, and using automotive vehicles and things like this for the underground mining activities.

On road transportation, I'm probably not the best one to answer that one.

The Chair: On that note, we're right at the five-minute mark, so that's appropriate.

Thank you, Mr. McLeod.

Mr. Arnold, I understand you're next.

Mr. Mel Arnold (North Okanagan—Shuswap, CPC): Thank you, Mr. Chair.

I'm here substituting for Candice Bergen, the official opposition critic for natural resources.

We know that through royalties and taxation, the energy business and workers contribute significantly to public services as well as the overall standard of living in communities all across Canada.

Can you tell us how the oil and gas sector impacts other industries in Canada when times are good and when times are bad, or how other industries are affected by the trickle down effect?

Mr. Frank Des Rosiers: It's a very good point.

In economic-speak, this is what we call indirect impact. Sometimes people tend to overlook the significance of these impacts. Whether it's for manufacturing, engineering, legal services, financial services, all sorts of local industries, and whether it's trucking or whether it's employment services, those impacts are quite significant. You feel it on the upside, as we've witnessed over the past years, not just in Alberta, but in Saskatchewan and in Newfoundland and Labrador. We've benefited from the significant upswing in oil and gas activity, but have also felt it when the price suddenly falls.

They felt it most directly during the recent reductions in terms of the volume of business, but also in terms of margins. We've seen many of those suppliers being squeezed to reduce the overall costs of the activities of those oil and gas operations.

Mr. Mel Arnold: Seeing the recent downturn in oil prices and the potential for LNG exports out of British Columbia, can you see a correlation? Is there an opportunity there that the industry is working on and moving some of those resources in support of the possibility of getting the LNG to market, such as in terms of the infrastructure needed to do that?

● (1650)

Mr. Terence Hubbard: I would say there is enormous opportunity, both in terms of the long-term interest in our oil industry and the gas industry going forward. The LNG industry is a tremendous prospect for us to capitalize on our natural gas resources. As the United States' domestic natural gas production increases, and for us to maintain Canadian natural gas production levels, we need to find new markets. The development of an LNG industry will help Canada to capitalize on the growing international market for gas.

Mr. Mel Arnold: Has there been or are you looking at a transfer of some of the resources that had been going toward the petroleum sector and, hopefully, channelling some of those government resources to assisting the LNG process?

Mr. Terence Hubbard: In terms of research and development expenditures, or resources more broadly?

Mr. Mel Arnold: In terms of capital expenditures and incentives that way. Last year our government introduced capital cost deferments and so on that assisted with the capital projects there.

Mr. Terence Hubbard: There have been steps taken over the last couple of years, and these efforts continue, to work closely with the government of B.C. and other provinces to support the development of an LNG industry here in Canada. Canada does have a competitive tax environment compared to other international players, and we do have a tremendous resource base. There is an enormous opportunity for Canada to capitalize on this LNG advantage, but we must recognize that it's a competitive international market and that there are a number of other countries seeking to capitalize on the same opportunity.

We need to continue to work with partners to create the conditions for the successful development of an industry like this.

Mr. Mel Arnold: Thank you.

I don't know if I have any time left.

The Chair: You've got just over 40 seconds altogether.

Mr. Mel Arnold: I'll pass my time to one of the other members, if they have....

Mrs. Shannon Stubbs: Given that certainty and timeliness on the part of government is important for developers and investment both in innovation and in energy production, are you able to give us any timelines in terms of finalization and clarity on the potential regulatory changes and any additional measures that could also expedite commercialization and technology?

The Chair: You have 10 seconds or less.

Mr. Frank Des Rosiers: The consultations that were referenced earlier are on a six-month track, so one would envisage that by the late summer or early fall, hopefully, there will be consensus emerging. When the announcement will occur, it's hard to say right now.

The Chair: Thank you.

Mr. Lemieux, you have five minutes now.

[*Translation*]

Mr. Denis Lemieux (Chicoutimi—Le Fjord, Lib.): Thank you, Mr. Chair. I would also like to thank the three witnesses who are here with us today.

I would like to continue with the liquefied natural gas question.

In British Columbia, there is talk of building three LNG plants by 2020. What main challenges will the government have to face to follow the trend of British Columbia in regard to LNG exports?

[*English*]

Mr. Terence Hubbard: There are a number of private sector proposals. I think there are as many as 20 private sector proposals to develop LNG facilities in B.C. Certainly, based on future opportunities going forward in terms of overall market demand globally, not all of those projects will move forward. Canada has some tremendous advantages in developing these resources, both in terms of the resource base that we have in Canada and the shipping distances between Canada and primary markets in the Asia-Pacific region, to capitalize on the development of this industry going forward.

However, to realize and take advantage of these opportunities, we need to have a framework in place in which Canadians can be confident that these resources can be developed safely and in an environmentally sustainable manner. The government is taking steps to announce how it will make decisions on these projects going forward to ensure that investors have certainty on what the process will look like, but also to ensure that Canadians can have confidence in how the government will take into consideration factors related to these developments going forward, including the potential impacts of these development opportunities on things like climate change.

So there are a number of activities going forward both in terms of working with the Government of B.C. in supporting and advancing regulatory decisions on these projects as well as some of the activities that Frank had mentioned before in working with industry and other partners on the innovation agenda to support the development of these resources in the most environmentally and competitive manner possible.

● (1655)

[*Translation*]

Mr. Denis Lemieux: Is the federal government also examining the possibility of building LNG facilities and setting up LNG projects in eastern Canada?

[*English*]

Mr. Terence Hubbard: That is correct. There are a number of LNG proposals in eastern Canada across various jurisdictions: Nova Scotia, Quebec, and New Brunswick as well. Again there are opportunities going forward for these projects to proceed. There's a lot of interest from international markets in Canada's ability to be a secure, reliable partner to supply energy for the long term. There are a number of proposals that have been moving forward, and we're working closely with those jurisdictions as well to understand what the opportunities are and how we can work corroboratively to support these development opportunities going forward.

[*Translation*]

Mr. Denis Lemieux: I am very interested in renewable energy. In my region, Saguenay—Lac-Saint-Jean, there is much talk of building plants to produce metallurgical biocarbon from forest residues.

Has CanmetENERGY conducted any studies to date on the large-scale industrial production of metallurgical biocarbon that can be used in the Canadian steel industry?

Mr. Frank Des Rosiers: Yes. The CanmetENERGY team in Ottawa does conduct such studies. These are both socio-economic studies to see how such an industry could take shape and technology testing studies to determine whether those technologies deliver the performance indicators put forward by the technology developers and to test them in our laboratories or with our industry partners.

Mr. Denis Lemieux: To date, have you not seen any industrial-scale projects in the world?

Mr. Frank Des Rosiers: Not that I know of, but we are rather at the stage of testing technologies and trying to refine them.

Mr. Denis Lemieux: Okay, thank you.

[*English*]

The Chair: You have 30 seconds left if you want to share the rest of your time.

Mr. Geng Tan (Don Valley North, Lib.): I want to use the 30 seconds.

As you just mentioned and the slides indicated, there is a drive to increase the use of renewable energy. I'm sure right now that the percentage of renewable energy used for power production must be very low. But what is your timeline, let's say, after five years, or 10 years, or however many? What percentage of renewable energy would be used?

Mr. Frank Des Rosiers: As a federal government, we're not responsible for the energy supply per se. We feel that our job is to make good on developing those technologies and making sure that they can be brought to stream in a relatively smooth way. As you can appreciate, for an operator who has been used to that steady power source, whether it's any kind of coal production, nuclear, hydro, or something where you have to deal with so-called variable power and Internet power, or whether it's solar or wind, it does bring significant challenges for those operators, and that's true across all of North America. But we don't have a target for safer renewable energy power production, and we feel that is beyond our government's mandate.

The Chair: Thank you.

I think we're out of time now.

Mr. Stetski, over to you. You have three minutes.

Mr. Wayne Stetski: I have two quick questions. How do you ensure that indigenous rights are protected and respected with regard to oil and gas development? The second one is a bit of crystal-ball gazing. I'm from southeastern British Columbia. A number of my constituents do work in the oil and gas industry up north. Are you able to suggest at what price per barrel would we expect to see a reversal in the employment numbers in the oil sector?

Mr. Terence Hubbard: The government has made a commitment on moving forward to work more closely with Canada's indigenous peoples in the development of Canada's natural resources. We have legal obligations to consult in the Constitution, when making decisions with respect to these development opportunities. Given the location of where most of Canada's oil and gas resources take place, close to indigenous communities, there's an opportunity to work more collaboratively in the development of these resources both in terms of how they're developed but also in the employment and business opportunities.

Natural Resources Canada has an office in B.C., called our Major Projects Management Office-West, which works very closely in collaboration with other federal government departments and agencies and indigenous communities to identify the opportunities, to enhance collaboration, and work more closely together toward enhancing participation in these development opportunities going forward. It's a first step, and we'll continue to make progress in this regard. There's a tremendous opportunity in this area.

With respect to your second question, changes in the price of oil in the industry have hit Canadian oil companies and global oil companies as well. But despite lower prices, we still see a tremendous opportunity to grow our resources going forward. In fact, over the next five years, we still see oil production increasing by approximately 800,000 barrels a day between now and 2020. With the oil sands and with the type of resource that we have in Canada, industry typically takes a long-term perspective with respect to its investment opportunities.

Because of the tremendous resource base that we have here in Canada and because global demand is expected to continue to grow going forward, we expect that in the longer term there will continue to be opportunities to grow our resources. We won't likely see a lot of new investment at $40 a barrel, given the cost of developing our resources, but with continued innovation to bring down costs and the expectation that prices will rebound over the medium term, we will continue to see opportunities and investment in the sector going forward.

● (1700)

The Chair: I think that's all the time we have today.

Mr. Frank Des Rosiers: Thank you.

The Chair: Thank you very much, the three of you, for coming in today. I appreciate your preparing and coming in, educating us the way you have, and answering all our questions. We're very grateful.

You're our first set of witnesses, and I can say with 100% certainty the best witnesses we've had so far. I think that may hold true for a while.

We're going to go in camera and deal with some other issues.

The meeting is adjourned.

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