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Chair

Mr. James Maloney

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● (1535)

[*English*]

The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)): Good afternoon everybody. We're going to get started here. First of all, thank you for being here again. Today we are going back to school. We are joined by three distinguished academics. Stewart Elgie is from the faculty of law at the University of Ottawa. André Plourde is a professor and dean of public affairs at Carleton University, and Mr. Michal Moore, who is on camera from Calgary, is a professor at the school of public policy. We also have Mr. Doherty joining us today for a second time. He obviously liked it so much the first time he made a point of coming back, or he thinks he needs to go back to school.

Mr. Todd Doherty (Cariboo—Prince George, CPC): I didn't get invited back though.

The Chair: It's an open invitation.

I will turn the floor over to Professor Elgie.

Perhaps you could start us off for 10 minutes or less.

Prof. Stewart Elgie (Professor, Faculty of Law, University of Ottawa, Associate Director, Institute of the Environment, As an Individual): Sure, I'll jump into the fray.

I have some slides here, which should pop up any second now. I think there is some version of these in English as well

As the chair noted, I'm a professor at the University of Ottawa. I head the university's interdisciplinary environment institute. I also chair the country's largest environmental economy think tank called Sustainable Prosperity. The perspective that I am going to speak to you today is on how we can advance both economic and environmental goals for the oil and gas industry at the same time.

I should say up front that I spent most of the 1990s suing the oil industry, as a founder of Canada's main environmental law NGO, before I became a professor. They apparently forgave me, because for the last year I've been the academic representative on the Canadian Association of Petroleum Producers advisory committee. I've had a chance to learn a lot about the industry from the inside, and in particular I have to say, I have developed a real respect for some of the CEOs in the industry who I think are making a genuine effort to try to address their environmental problems while building a competitive industry at the same time.

In fact, one of the things I just circulated is that we've recently launched a new initiative about repositioning Canada's economy as a whole to be a leader in clean growth globally. We had the fortune of having the Prime Minister there when we launched. It has 27 CEOs from all across the economy, including the resource sector, together with environmental groups, aboriginal leaders, social leaders, youth leaders. It's a collection that looks like Canada, and all agree that positioning ourselves where the world is going, which is toward clean growth and innovation, is a good idea for the country.

I'm going to talk specifically about oil and gas, but a lot of the framing and a lot of the policy prescriptions that you find in here are similar to the ones I'm going to talk about for oil and gas specifically.

Let's start with oil and gas generally. I don't need to tell folks here that we live in a carbon-constrained world, with Canada's commitments at Paris, the G7 commitments, about significant decarbonization over the next 50 years. What does that mean for an oil and gas industry, in a world in which we're going to have to dramatically reduce our green house gas emissions, particularly once you look beyond 2050? I don't pretend to be the world's leading technological expert on all the technologies and their trajectory, but there's a general consensus that we're going to use much less oil and gas, particularly as we move into the latter half of the century.

What does that mean for the industry that we're here to talk about today? These are the International Energy Agency's forecasts for energy consumption, which are generally considered middle of the road. This assumes that we put in significant new climate policies.

If you look at the two areas that are blue—the dark blue and the light blue—those are oil and gas. You see them spiking somewhere around 2040, levelling out, and then declining. The ones on the top, which are wind and solar, and the bottom, which are biomass and hydro, are growing. What's interesting is that there's still significant oil and gas, even by 2075. Under those projections, we'll be producing about the same amount as we were in the 1970s.

The point is that it's going to shrink, and cleaner energy is going to grow, but it's not an either/or choice. We're going to be living with both as part of our energy mix for a good 50 or 60 years to come. We can debate the pace and scale of the change, but as a general story, that's probably widely accepted.

This is just a drill-down—drill-down is probably the wrong word to use—into oil and gas specifically. It's of oil and gas through to 2040. Some of the things that are important to note, again, are that it begins to plateau around 2040 and that you see growth in natural gas. The bottom in dark green is the existing oil and gas fields, which shrink. The next two layers of green above it are yet to be found or developed oil and gas fields, which grow. More and more of the oil and gas that we'll be using in 2040 will be stuff that's not yet commercially produced. The dark bar in there, which looks kind of black to me, is their projections for oil sands. That is generally considered to be part of the energy mix that we're going to have.

As I said, this idea of choosing between one or the other is really a false choice.

Let me shift to what the future looks like, or what it might look like, for Canada's oil and gas industry in a carbon-constrained world in a couple of decades. I'll frame it by saying that when we think of competitiveness, traditionally we think of cost. That will continue to be an important factor, but environmental competitiveness will be an increasingly important factor. Some of the CEOs of the big oil companies would say exactly the same thing if they were here today. They're going to be competing both on cost and on environmental footprint grounds.

● (1540)

If you look at this chart put together by the Carnegie Endowment, you see that it's really interesting because it maps three things. The width of the bars shows the amount of oil and gas by 2020, predicted. On the far right of the chart are, of course, the oil sands. The gray bar shown is the cost of producing. What you see there is that the oil sands are among the highest-cost producers, although the low-end production is not the highest—but the high end is. The last bar, that black bar with an X in the middle, is the average greenhouse gas per barrel. That's the environmental cost. Again, it's near the top end of costs.

Therein really lies the challenge for Canada's oil and gas industry. We are a high-economic-cost and higher-environmental-footprint producer in a world in which oil and gas will get increasingly competitive as demand starts to level off. We're going to have to address both of those challenges.

I probably don't have to tell anyone in this room that a poor environmental reputation has costs. If you want to put a number on those costs, they're costing the oil and gas industry about $10 billion to $15 billion a year right now, because a big reason why their pipeline access is getting blocked is a poor environmental reputation. We can debate how much of that reputation is deserved and how much isn't—maybe we'll have another conversation on that—but deserved or not, it's costing them $10 billion to $15 billion a year in hard cash, which is way more than anyone will pay under any carbon-pricing scenario in the near future.

The cost of a poor environmental reputation is huge and it's real. What's the way out of it? What's the way forward?

I think, interestingly, that this is a solution that more and more leaders in the oil industry would agree with, and that is to drive clean innovation. That's really the win for them. They have to drive down their environmental footprint in a way that doesn't drive up costs.

We could have and should have a much longer conversation about how you drive clean innovation. Here, I have a wickedly complex chart. I've put it out just to say this is a vastly simplified explanation of how innovation happens. Basically, on one side of it people are coming up with brilliant ideas, and on the far side ideas actually become companies that generate jobs and growth and employ people. In the middle, things move up from scale-up to demonstration and to commercialization, with a bunch of investors working in the middle.

I want to make two points. One is that all innovation requires government support. There's virtually no major technology in the last century that hasn't had some major government investment at some stage of it, including every piece of the smart phone that we all have, and including the oil sands, which received tens of billions of dollars in initial support to unlock the technologies that made them viable. It really is a Canadian innovation success story.

The idea that all innovation is driven by the market is really increasingly seen to be false. Yes, the market is critical, but government has to play a key role because there are market failures. The big one is knowledge spillovers.

The problem with clean innovation is there are two market failures. Not only are there the general ones around innovation, but the thing you're innovating around doesn't have a market value. You can't go to the supermarket and buy low carbon. You can't buy clean air. These things are what are called “externalities” by economists, right? They're free, so the demand for clean innovation is actually driven by government policy, to a large extent. It's not like I produce cleaner air and I can walk out and sell a bunch of it the way I can sell a smart phone.

Government has an indispensable role to play in driving clean innovation, far more than in most types of innovation, and this is equally true when you talk about the oil and gas sector. That's probably the main point at a macro level, I guess, that I would hope to leave you with.

What does government do? Again, this is an attempt to say.... We probably should have a longer discussion about it, but on this next chart, these are just some bubbles. On the bottom are the different stages of innovation. Again, shown here on the chart on the far left is research, and on the far right is commercialization. You will see here a bunch of the main things that governments need to do to drive innovation effectively.

At the very top, what is shown is that like any corporation, you obviously need to have a strategy if you're going to make choices. You need to have a strategy for what a clean innovation future looks like, including for the oil and gas industry. Then, as you work down.... Obviously, I won't talk about research: we get that.

Some of the most important things are about putting a price on carbon. There's OECD study after OECD study saying that flexible, price-based regulations are by far the best way to drive innovation, because you make more money the more you reduce your footprint, so there's an incentive just to keep going and going. The people who reduce the most make the most money, unlike a speed-limit approach to regulation that says everyone just has to do the same thing.

● (1545)

So flexible, price-based approaches to regulation are going to drive innovation far more. Then, there are a whole bunch of other things, including things that you've probably heard a bunch about, which include supporting investment, particularly at the early stages when things move from the research lab through to demonstration and start-up and, to some extent, also at the commercialization stages.

The last thing I'll talk about is that bubble up there about connecting and lubricating the ecosystem, for lack of a better term. You actually have to have these inventors in their garages meeting the Suncors and the Shells of the world so they can actually get their brilliant ideas put into practice. It's like a dating service in a way; helping them find each other is something the market does a poor job of, and so government can play a critical role there.

The good news is we're making progress on this. Alberta is now the only major oil-producing jurisdiction in the world with a meaningful price on carbon and a cap on emissions. Those two things will both drive innovation.

I had the privilege or the onerous privilege of being part of the negotiations in the backrooms about that. It was a big thing for the industry to agree to this, and it was a big thing for the NGOs to agree to this, but it really will do what they're trying to do, which is to bend the cost curve of lowering carbon emissions.

Industry is ramping up its efforts to innovate. The creation of COSIA, Canada's Oil Sands Innovation Alliance, three years ago, is a genuine effort by industry to share all of its new clean innovations. There are private sector partnerships like Evok, a partnership between BC Cleantech and Alberta's oil sands, that are trying to make those connections between clean tech and oil and gas. That's a really good start, but they're not there yet and even they would admit that. They still have at least five to 10 years of hard, hard work to bend the cost curve. That's going to involve a bunch of the things in that previous diagram. A price of $30 a tonne is not enough to induce clean innovation. They have to get above $80, and they'll say that themselves when you have private conversations about their cost curve.

The real breakthrough technologies are going to get up into $80, $90 or even more than $100 a tonne. That's their cost curve for those innovations to make economic sense.

The investment side is going to ramp up. In the next five years, we're going to have to put a lot of money into some of these early-stage ideas and into trying out demonstrations, some of which will fail, as will any good technology venture capital. They're not all going to succeed, but the ones that succeed will be the ones that make a difference.

My last point is that the oil industry is now largely where the forestry industry was in the 1990s, as you may remember, with Clayoquot Sound and global protests. They were really in the bull's eye of the global environmental movement. They repositioned their entire business strategy to make sustainability an opportunity rather than a threat. Now the same people who used to boycott them promote their product.

The oil industry is in the beginning of trying to make that change. We'll know in five or 10 years whether they succeed, but I think a critical mass of the leaders are trying.

If we do it and if we put the right investments in place, it's not only going to help the oil industry. The technologies we develop will in and of themselves have value and will be an export product. They will create spin-off innovations around them that will also create value—in many ways this is Norway's solution—and the resources and the rent we get from them will actually help us invest in building Canada's next generation of economy, a cleaner economy.

Seeing it as a transitional solution to building a cleaner economy in the next half of this century is critical.

That's all I have. Thank you.

The Chair: Perfect. Thank you very much.

I'm going to turn it over to Michal Moore in Calgary next.

Prof. Michal Moore (Professor, School of Public Policy, University of Calgary, As an Individual): It's nice to be testifying with André and Stewart.

In my remarks today, I'd like to reiterate some of the key forces we face in the oil and gas markets. I'd like to start by eliminating a source of confusion, at least one for me, about when people talk about oil and gas markets and then fail to distinguish that these are fundamentally different from electricity markets, the area I work the most in. When we hear commentary on news media, or often in policy debates, we hear discussion of the energy market. The energy market, small “e”, is one that encompasses a lot of different fuels, but it's not necessarily the oil market, and it's only partially the gas market when we talk about generation.

Per your instructions for my appearance today, I'm confining my remarks to oil and some gas markets, a couple of remarks on coal, but none on electricity. In that, I'm going to concede that I'm making a mistake, because all of these markets depend on electricity for pumps and control systems and, as a consequence, the issue of electricity does belong in the background of your deliberations.

The four key forces—which, I would point out, bring us to a discussion of whether we can become more competitive in oil and gas—in many ways have to do with the outside world. We have lots of world competition. Oil is abundant and is relatively easy to get at. It doesn't matter whether you're talking about Africa, South America, Mexico, or the Asia-Pacific markets, we have a lot of competition in that wide world. We have a lot of increased supplies coming from elsewhere in the world, Saudi Arabia being a principle case. When you're dealing with someone whose marginal costs of production, from fields they developed back in the mid-1950s, could be as low as $6 a barrel, you have someone who doesn't need to hesitate to lower prices or force capitulation in world markets. This affects us, of course, fairly dramatically.

There's a decrease in the demand from our principle client, the U. S. There are a lot of reasons for that, but in part they're developing their own supplies, and they're certainly fostering some innovation of their own on the demand side of the market.

As Professor Elgie pointed to in his remarks, we have new environmental standards that are imposing restrictions on us and on the way we acquire and process oil and other hydrocarbon products. Those standards are beginning to bite and constrain our ability to not only create new facilities in Canada but also to be able to sell to the U.S. and points beyond.

My recommendations and my sense of where we have to go are contained in how we are going to change our own responsiveness and our own structure for governance and incentives in the broader policy arena in Canada.

I'm going to suggest that we have to sponsor a couple of changes that will be fundamental to providing incentives for new innovation and new inventions, or new ways of doing business.

First, we need a better information system. We need something like the U.S. EIA in terms of our sources of information—and that's for all of our players, including the provinces or future investors. We need a way to get dispassionate, accurate, and dependable energy information out into the marketplace. We don't do that now. We have limited and, at least from the market's standpoint, biased information sources that don't always benefit every province or every area in an egalitarian way.

● (1550)

Second, I believe that we need an energy strategy, a real energy strategy, not just platitudes and policy prescriptions that are a reflection of current political conditions, but a strategy that says where we want to go as a nation in terms of our investments and in terms of our long-term policies, a strategy that brings the provinces together rather than continues to support 10 separate energy policies, 10 separate structures dealing with the outside world. If we're going to be able to sponsor that kind of energy strategy, we will find a better view of the future and a better view of how markets operate.

In that sense, I would like to suggest that we have a habit of chasing markets rather than planning for them. The energy markets that we face, we could address with hydrocarbon products, not necessarily just raw oil products, or natural gas, or natural gas liquids. In fact, markets will demand different products from us, and we're going to have to anticipate them and get out ahead of that.

I think that leads us, inevitably, to a world of greater investment. I'm going to touch on what Stewart Elgie just said, we need greater investment in trying to understand where technology is going and trying to understand how to produce better products that use energy in all its forms more efficiently over time.

Innovation, I believe, will be based on a fuller understanding of the basics of the technologies that we use and on finding out what to incent. The reference to developing new technologies, which I'm very, very familiar with from working at the U.S. national energy labs, is to know when to quit. You can chase a lot of technologies that have promise but won't make it through what's known as that S-curve, the valley of death that doesn't let them get commercialized over time.

I think we can focus our innovation most profitably on learning what the choices are of technology, how to use that most effectively, and how to focus on behavioural choices, which is the component that literacy is built on. We've done some work with Carleton University and discovered that there are great strides we can make in terms of bringing the public on to support technological change and embrace new solutions. Finally, make investment uncertainty decrease by having more consistent policy goals and more consistent opportunity, consistency between provinces and between investment opportunities.

Let me just list a couple of areas where I believe that innovation and technological change can benefit us in terms of using our oil and gas or hydrocarbon resources when they are finally no longer useful or attractive to the marketplace. By the way, I believe that the 2040 date that Professor Elgie suggested is probably very close to reality. The likelihood that there will be a transportation market beyond 2050 is pretty low. It will likely be replaced by electric demand more than combustible fuel demand.

We can use some of our hydrocarbon products, including natural gas, to bring onshore fertilizer businesses back to Canada. It's likely to be useful as we begin to get longer rotation times for agriculture and more penetration of agricultural development farther north. There are new chemical products that are an attractive industry that can use the residual from oil and use it very, very productively. There's an attractive export market for us. We can begin to think more seriously about exporting electricity that we don't have to move around in bulk. In other words, if you generate electricity in many forms, we can begin to export that instead of the fuel itself.

● (1555)

We've got new opportunities for plastics and synthetics—and frankly, long term, one of the most attractive uses for some of our pipeline system may be for moving water around and making use of that in new water markets.

At the core of of my arguments here today lies the idea of getting our policy arena more consistent, more coherent, and adopting strategies that bring the provinces together with a goal of trying to understand where the future energy markets in the wide world are going, as opposed to where they've been. I think when that is put out in front of the investment community more clearly, we're likely to be more attractive for capital investment here and, frankly, for a transition that's more attractive to outside investors.

My final point is that we are living adjacent to a country that has invested a tremendous amount of money in developing the 11 national energy labs just south of us. Right now every one of those labs is looking for research opportunities and collaboration for developing new technologies, and one of those is right in front of us today, a $240 million investment in revamping the transmission grid to make it more resilient and to bring it into the 21st century. These all represent opportunities for collaboration with people who do this for a living all the time. One of the most efficient uses of some of our own research talent will be collaborating with our colleagues in the U.S. and speeding up that S-curve that Professor Elgie just spoke of.

Thank you.

● (1600)

The Chair: Thank you, Professor.

I will turn the floor over to Dr. Plourde.

Dr. André Plourde (Full Professor and Dean, Faculty of Public Affairs, Carleton University, As an Individual): Thank you, Mr. Chair.

At the outset, please allow me to express my solidarity with the people of Fort McMurray in this time of crisis.

In the few minutes available to me, I would like to make four points. I am going to take, perhaps, a slightly more abstract approach to this and focus on the nature or characteristics of a policy framework that I think might be promising as we think of the future, and maybe highlight a few things we might have learned from the past.

First, from my perspective, the sustainability of Canada's conventional energy industries depends on our ability to reconcile their continued operations with Canada's climate policy objectives. Both of the previous speakers made the same type of point. That is going to be a critical determinant of how sustainable the operation of Canada's conventional energy industries is going to be over the next decades. If they can't adjust to the new realities, this will create issues for their survival.

The second point I would like to make is that within that context, the overall policy approaches adopted in the past were, effectively, anchored in the view that individuals, firms, and other collective actors should behave as if greenhouse gas emissions were costly to those generating the emissions, when in fact they were costless, or at best almost costless. There was this idea that by telling people these were nasty things or not necessarily desirable policy directions, but not giving any further signal, we would exhort them to say, “Well, it is as if this was an expensive thing to do”, when in fact it wasn't.

We can't be surprised, when were there no formal signals to be given, that this has not proven to be a particularly successful way of approaching policy. This has been true in Canada and in other industrialized nations as well. This notion that exhortation alone would be appropriate has been shown time and again not to be effective.

If change is to occur, then a clear economic signal, such as a price on carbon emissions, would need to be given as a matter of policy. Again, both previous speakers have made the point that government intervention in one form or another would be needed to give the right sort of environment for these types of issues to be addressed by the private actors. I would agree with that point.

The third point I would like to develop is that innovation activity, at least in part, will depend on sustained and successful research and development activity. There is a clear economic case to be made, as Prof. Elgie has done, for government support in this area. Such support could take all kinds of forms: subsidies for private sector activities and investments; government-sponsored research; or research activities undertaken directly by the government, either on its own or in partnership with other economic actors.

The issue here is going to be one of choice. There are all kinds of different activities, including investment opportunities in public sector R and D, that can be done to support energy industries down the road. There will never be enough public funds to pursue all of these activities. What kind of approach, then, would start to make some kind of sense?

I would argue that it is in Canada's self-interest that our first look be at trying to address issues and problems that other countries or actors outside of Canada will simply not address. A simple example is the oil sands. The characteristics of the oil sands deposits in Canada are very particular in the types of technologies that are used. They are particular, therefore, in the types of approaches to dealing with the environmental issues associated with the production of oil from Canada's oil sands. Since the deposits are almost unique internationally, nobody is going to try to fix these problems for us or address those environmental issues for us. That's the kind of place that should be particularly attractive for both the federal and provincial governments.

● (1605)

The next stage is to highlight what kind of international partnerships we can have to develop a broader set of collaborations than we normally think of. Professor Moore has made that point with national labs in the U.S. looking for collaboration opportunities. That's true across the world these days, and we should therefore try to find the right kinds of partnerships to help all of us address those issues. All of us will benefit from those types of things. Canada will not address nor solve all these problems by itself.

Finally, as the structure of economic incentives change in Canada and other countries, different economic opportunities will emerge. Firms in the sectors under consideration will react and decide which of these opportunities to pursue. In that context, it's best for government to allow industry to play that role, and not to be too directive in picking specific areas of winning technologies or aspects.

The key role for government has been highlighted before and the two points that I made earlier are to set a policy environment that provides clear signals across all sectors of the economy, that reduces uncertainty; provides clear incentives for the broad directions we want to work; and lets the people who have a lot of information and who will ultimately be making key investments in this area to choose the tracks they want to pursue. The role of the government or the state is to provide a much broader framework within which the industry would then take a leadership role in developing the next phases of the industry.

Thank you very much.

The Chair: Thank you very much.

Now I'm going to open the floor to questions.

First up is Mr. Tan for seven minutes.

Mr. Geng Tan (Don Valley North, Lib.): Thank you, professors, for your insightful presentations.

Professor Plourde, you mentioned that Canada needs a better policy framework. In your expert opinion, is a robust environmental assessment essential if Canada is to achieve a level of environmental protection that Canadians are looking for? Would you agree that Canada needs to have a stronger environmental oversight in the regulatory approval process?

● (1610)

Dr. André Plourde: That's certainly one part of the puzzle, but not the only part. As I would highlight and maybe others have highlighted before, we need something broader than command and control or directives to say do this. As Professor Elgie has mentioned, this is a flat line, whereas what you want is to provide growing incentives to do things.

It's important that the regulatory framework we use for projects encompasses an approach that truly recognizes both the benefits but also the cost, including the environmental cost of development of specific projects. From my perspective that would not be sufficient. We need something broader than that, that operates at a level where regulatory oversight is not necessarily a big factor in the activities.

Mr. Geng Tan: Professor Moore, what should the government's policy be with regard to effective evaluation of all your activities if we want to help the industry remain competitive and sustainably green?

Prof. Michal Moore: I'm going to echo what Professor Plourde just said, that a role for government is to provide incentives. We do that in many industries today by finding technologies that can compete for support. I'm going to echo the idea that chasing or trying to pick a winner is not likely to be very productive in the long term. But when we provide some incentives that people can compete for to get a leg up and become more competitive in the market or to design new solutions that allow them to participate in the greater market more effectively, then we're likely to have more impact and a faster impact and an affirmation of some of the technologies that will eventually be the winners.

Mr. Geng Tan: My next question is for Professor Elgie. You mentioned in your presentation that Canada's oil industry may have a poor environmental reputation, so you suggest that we provide more support for innovation to reduce the carbon footprint. It makes sense, but what are the innovations?

As mentioned by Dr. Moore, when we talk about innovations, we have to have a very basic understanding of them. How feasible is it to use those innovations that we have to meet our daily requirements for energy? What are the innovations?

Prof. Stewart Elgie: If I knew the answer to that, I'd be a much wealthier man than I am, and I wouldn't be a professor.

There are certainly some technologies on the horizon. I'm talking more about production than consumption, because they're obviously completely different technologies. The demand for this stuff is largely driven by transportation, and there's a whole basket of technologies there.

Let me focus on just the production side. The big challenge, really, for oil sands is that they have to generate a lot of energy for the steam and heat that separates the oil from the dirt. They have to find a technology that doesn't require them to use such massive amounts of energy and heat to do that separation. There are some that are in demonstration phases now. They're probably at least five to ten years away from being viable. There are two or three. I don't know which one will win yet. They don't even know which one will win yet.

I would echo what Professor Moore said. Government is probably not the right place to pick what the right technology is, nor is a professor, unless it's a professor of advanced engineering, which I'm not. What you should do is create the conditions that will accelerate getting to that answer and will motivate them to get to that answer faster than our competitors.

We are now competing for environmental performance in a way we never have before. We used to compete on labour costs and other costs. We're now competing on environmental performance. Just like we want to motivate labour productivity and innovation, we want to motivate environmental innovation and productivity. The ways to do that, believe it or not, are actually to have stringent standards but predictable ones.

Professor Moore hit on a really important point. If investors and companies know 10 to 15 years out where the bar is that they are going to have to hit, and it's predictable, the investments they make today will reflect the expectation of having to meet an increasingly stringent environmental standard. Creating an expectation of increasingly stringent, efficient regulation will do a lot of the driving of the right choices. I don't know the answer today, necessarily.

● (1615)

Mr. Geng Tan: From what I heard, while the government issued its support for innovation, clean technologies, and new technologies, at least for now we still have to support our oil and gas industry.

Prof. Stewart Elgie: Oh, yes, but a lot of that clean technology will be in the oil and gas industry. I think this is part of the challenge. We're having this debate as if there's the new, green economy, and the old, brown economy. It's actually a false debate.

Innovation tends to happen around the things you already do in an economy. Innovation is usually not a white bolt of lightning that hits somewhere over there, where nobody's looking. You innovate around the things you're already good at and you already try hard at.

All of the expertise we've built up around oil and gas, as well as auto-making and other regional strengths in our economy, will be the places where we'll innovate. Where that innovation will take us is like guessing where the roots of a tree are going to go. We don't know, but the more we drive it, it will create value not just for the oil industry but for lots of other spinoff industries that emerge around some of those breakthrough technologies.

The Chair: Ms. Bergen, over to you.

Hon. Candice Bergen (Portage—Lisgar, CPC): Thank you to our three guests who are here today.

Dr. Moore, I'm going to start with you. I just want to start by saying that I'm hearing two different statements. On the one hand, I'm hearing that Canada has such a terrible reputation for not being environmentally responsible. Then on the other hand, I'm hearing that we have some of the greenest and the best technologies for extracting oil.

Correct me if I'm wrong, but it seems as if we as leaders are doing a disservice not just to our energy sector, but specifically to our oil and gas sector when we keep repeating this falsehood that somehow we are dirty oil extractors, and that we're not extracting our natural resources in, comparatively speaking, a responsible way.

I want to ask you, Dr. Moore, whether you have an opinion on that, and whether you think that as leaders—political leaders, academic leaders, NGOs, or whatever—we have a responsibility to speak the truth about Canada's responsible environmental record.

Prof. Michal Moore: Canada has certainly made significant strides in trying to understand how to extract, refine, and use hydrocarbon products more responsibly and more effectively over the years. Professor Plourde highlighted that in his remarks, and I will amplify the fact that we have made great strides in trying to understand what those are and trying to put a price on them. Most economists like me tend to favour a carbon tax to reflect some of the impacts or the potential externalities of using some of these fuels. We've got a start, we've got a framework, and it did start here. As a matter of fact, it started in a solid enough way that I think we can hold it up and say, this is a place where you can depart from and start to fine-tune some of those charges and make them more focused on consumer behaviour.

In terms of what we have developed, I think we have an opportunity to make a few more strides by using a hydrocarbon base —it doesn't matter whether it comes from Oklahoma, from Indonesia, or from here—in such a way that when we burn it at the end of the cycle, we generate air emissions and toxic compounds that have to be dealt with in some way.

There are a lot of other industries that generate toxic compounds that we can be a part of solving. Let me name only one, and that is the source of CO2 and methane gases that come from the construction of cement foundations, or cement bridges, or roadways. Basically, the amount of CO2 generated from transforming Portland cement as a rock into a useful compound simply dwarfs what we generate in oil sands operations.

On the other end, if you look at what has happened and the tragedy that we have in the northern Alberta region today, what's coming out of the burned forests and the transformation of cement products—which will have to be destroyed because they don't have integrity any more—will in turn exacerbate the problem that we have.

What I'd like to suggest is that we're sitting on top of an innovation opportunity here that we don't yet know how to use. But these hydrocarbon products can be the basis of a new way to generate or develop structural products that we can use in building. We can provide a substitute that's lower in carbon intensity than cement ever has been in the past. We can begin to go back to an old way of paving roads. I'm simply saying that there are ways to use our processes more effectively.

● (1620)

Hon. Candice Bergen: I have three minutes left and I do want to ask another question and see if I can get Dr. Plourde into this discussion as well.

Dr. Moore, you talked about a a real national strategy on energy. I'm interested in a North American strategy and your comments on that. I think one of you maybe—and I missed part of Dr. Elgie's presentation—said that our greatest customer is now our biggest competitor, and that's the U.S. I know that we can't can't compare apples to apples in an exact way, but even in terms of our regulatory process, are we not doing ourselves a disservice and making ourselves uncompetitive when we're imposing provincial and national carbon taxes when the U.S. and Mexico aren't, and when we are adding extra layers and uncertainty, for example, to pipeline approval processes and banning tanker traffic off the coast of B.C., when the U.S. is doing the exact opposite? Can you comment on how we are putting ourselves at a competitive disadvantage?

Prof. Michal Moore: We put ourselves at a competitive disadvantage by not collaborating with our neighbours.

I thank you for the entry into that, because in seven days I'll be in Cuernavaca, Mexico, to outline a framework for a pan-North American energy strategy meeting that we hope to hold in August with Canadian participants, American participants, and Mexican participants. We hope to be able to offer some documentation on exactly what you're talking about in your deliberations.

Hon. Candice Bergen: Does Dr. Plourde have any time?

The Chair: One minute.

Hon. Candice Bergen: You have one minute, Dr. Plourde. Do you have a comment to make?

Dr. André Plourde: I guess the view that I would bring to this is that it's our environmental problems that need to be addressed. We've talked about externalities. If doing something creates costs that are not borne by anyone, I think it is incumbent upon the policy framework to make sure that it is addressed. That said, we also have a responsibility to make sure that if this is addressed, it's addressed in the lowest cost way possible, to deal exactly with the issues that you've raised. There's no point in imposing too large a cost to deal with a specific type of problem when there are cheaper ways of addressing the issues. What the policy framework that we put in place should do is to look for those cheap ways of addressing the problem.

Prof. Stewart Elgie: I have two quick points. Most CEOs in the oil and gas industry want a carbon price, and the U.S. does look at the upstream impacts of oil and gas infrastructure development already in its environmental assessment process.

Hon. Candice Bergen: But I—

The Chair: Right on time.

Hon. Candice Bergen: All right...the next one.

The Chair: Mr. Cannings.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): I'll follow up on that last comment, because it was one of the questions I was going to ask you, Dr. Elgie.

You talked about Canada's environmental reputation and working on innovation to fix that. One of the concerns about pipeline projects, etc., is they will enable more expansion of the oil sands and more greenhouse gas emissions. I wanted you to comment on that, including any upstream impacts of projects such as that on our environmental impact system.

Prof. Stewart Elgie: That's an easy question, right?

In the big picture sense, I think that the challenge for oil and gas is not that different from other industries, which is that we have to move from seeing environmental performance as a threat to competitiveness to an opportunity for competitiveness. Whether we like it or not, the world is moving in this direction. Our choice is whether we try to move with it, or try to duck and hope that it goes away. Most farsighted CEOs realize that this a fundamental structural shift in the world's economy. Moving toward more sustainable environmental performance is good business. It's also true for oil and gas.

What does that mean for pipelines? In some ways, it's the most difficult political challenge facing the country right now, I think. I'll give you my view, and one that a growing number of people in the environmental movement in the oil industry would share, which is that the world will continue to use oil and gas for decades to come. There will be a market for it. There's no reason why Canada should be the only producer in the world saying that we're not going to take part in that market. Norway takes part in that market. We don't have to say that we shouldn't sell our product. The world will use it.

I think what we should do is to be able to say that we produce that product in an environmentally responsible way. Let's get rid of labels and just look at numbers. The per-barrel footprint of our oil and gas is higher than most of our competitors. Even the oil and gas industry acknowledges that. That's partly because of the nature of the deposits. It's the nature of getting that stuff out. The only way to solve that is to put themselves on a path to no longer being a high-carbon footprint producer. They know that. They understand that, and it's a key part of their business strategy.

Here's what I think the challenge is. The investments and policies we're putting in place today will put us on a path to probably getting there in 5 to 10 years. The challenge is that we need to make pipeline approval decisions today, before we've seen them bend that carbon cost curve.

My own view is that Alberta and the oil industry have now put in place a policy and innovation framework, and if it continues to get more stringent, that will put us on that path. They ought to be able to get their access to market for their products from doing that.

As long as we're producing the product in an environmentally responsible way, there's no reason why Canada shouldn't be able to get its product to market. The challenge is going to be, as we're building it, to show that the policy measures we're putting in place today are continuing to drive that improved innovation curve, because they're going to happen hand-in-hand.

It's a tough problem, but that's my view on it, for what it's worth.

● (1625)

Mr. Richard Cannings: I'll put my next question to Dr. Plourde.

We all seem to be in agreement—at least you three are—that carbon pricing is a necessary step to getting where we need to go. If we're talking about a carbon tax, I wonder if you could comment on whether it would be better to have that carbon tax put toward innovation strategies, or whether it should simply be made revenue neutral.

Dr. André Plourde: Thank you.

An hon. member: Another easy question.

Some hon. members: Oh, oh!

Dr. André Plourde: Yes, another easy question. Thank you for that.

There are, as you know, broadly two ways of addressing this issue or of thinking about this issue. One is the B.C. type of example, with the revenue-neutral approach. You raise some revenue and you return it in a way that's not correlated with how the emissions are generated, so you're not playing with the incentive system and your return. The other thing is to say that you'll use the money and then subsidize some form of investment in the area.

I guess I come at this by saying that I would argue at the outset that there is a need for the public sector, as we've all said, to invest, in some form or another, in the development of clean technologies as we go forward. I think that's a decision that is completely separate from what kind of carbon tax you want to put in place. For me, I would like to see a break between the two.

I would say, “You have to do this, fantastic, so sort out what your budget statement must look like in order to provide the kind of support that you do.” On the other hand, you have all kinds of different ways of raising revenue. You raise revenues the way you do, and if you want to target this in a different way and return the revenues to the public, then so be it.

I would not like to have an explicit tie between the two. It's too easy to manipulate if you do that. I don't deny the need for public investment, but on the other hand, I worry about the close connection between the two. I'd rather not see a connection.

Mr. Richard Cannings: Dr. Moore, I would like to hear you expand on the real national energy strategy that you talked about, on what that would look like and what are the really important parts. I think you mentioned a couple of them. I'll give you however much time we have left.

The Chair: You have one minute.

Prof. Michal Moore: In one minute or less, let me say that in the documents I've submitted there's a link to the piece that I wrote and published three months ago on what the characteristics of a national energy strategy might be.

Basically, it says that a strategic intent is not a plan. It's a vision of how the nation and how the provinces will co-operate together, anticipate what markets are going to look like, anticipate how to deal with some of the upcoming forces, such as the ones that Professor Plourde just mentioned, and start to develop innovation, technology, and policies that help the nation move to that area.

It's a vision of the future, and the plan that I advance describes a process that you could use to get there most efficiently.

● (1630)

The Chair: Mr. Serré, over to you.

Mr. Marc Serré (Nickel Belt, Lib.): Thank you to our three guests for your presentations. I really appreciate the knowledge and the expertise that you've given us today. Personally, for me, this has been one of the best presentations we've had so far, because you're really looking at the oil industry and the environment together, and at how we move forward in utilizing innovation. That's pretty exciting.

The other part I wanted to comment on before I ask my question is the discussion around the collaboration with our partners, the U.S. and Mexico. We've also indicated the provinces and how they fit into all of this, as well as first nations environmental concerns.

I wanted to see if Dr. Elgie could expand a bit on the last few years. We know from the presentations that when we look at 2040, with the growth that is needed and even the demand for oil and energy in 2060 and beyond.... Why was there, in your opinion, that lack of consultation that has led to this failed approach over the last few years? What can we do better to make sure that we bring our resources to tidewater? Also, I'd like to hear comments about the five principles the government recently put in place.

Prof. Stewart Elgie: I would say that if you unpack the opposition to the pipelines, it's a mixture of local and regional site-specific concerns about the pipelines themselves and a concern about the environmental performance of the oil sands. It's very hard to unpack those two because, really, whether you're going east, west or south, those two factors are both at play. When you're going west you're looking at a mixture of first nations' concerns, bilge concerns, tanker concerns; to the east, you've got many of those things too; and to the south, you've got Donald Trump and Hillary Clinton and lots of other stuff, and Barack Obama. You're right.

Mixed with all those things, I think, if you took out the factor of the environmental reputation of the oil sands.... We've been building pipelines in this country for decades and none of them have generated the kind of controversy that these ones have. I think it's because the pipelines have become a proxy for the fight about the oil sands, which doesn't mean there won't still be regional and local issues about pipelines. There still will be and we've worked those things out as a country before and I think we'll work them out again.

I think the key to unpacking the opposition to the pipelines is unpacking the environmental challenges that are facing the oil sands industry. I think, as I said before, that we're on path to do that. I think we know how to deal with social licence around pipelines. We can do it better, but it's not something we've never figured out.

The only thing I would add—and this builds on the question to Professor Plourde—is that one of my biggest worries is that we need a pulse of investment, public investment, in the next five to 10 years to lay the foundation of the infrastructure and the technology that will largely determine our economy in 2050 to 2060. Really, the infrastructure and the technology choices we make in the next five years will be our carbon footprint, so we're going to need a significant public and private investment.

This is where I get a little more worried about the question of pricing, because I think we're going to need a significant role for the federal government and the provinces. A lot of this is of national interest, not just a local one, and I'm worried that it's great to do it on deficit financing, which can work in the short term, but in the long-run I think that both federal and provincial governments are going to need some income coming from carbon pricing as a way of investing in the economy of the future. I just think that the reality of it is that we're not going to continue to have the political will to make those investments unless there's a revenue stream that they can be seen to be going back against. That includes the federal government. I think there should be some form of revenue stream around carbon pricing that goes back out to provinces, but that helps to deal with issues of a national interest to complement all of the provincial stuff.

● (1635)

Mr. Marc Serré: I also have a question for Dr. Moore related to the energy labs that you spoke of earlier and also about our government's plan to invest in the innovation aspect of the natural resources. What more can we do as a government to support those initiatives? Could you expand upon what you already said.

Prof. Michal Moore: On the remark about the United States Department of Energy National Laboratories, they made an investment that started back in the 1950s to create energy research areas that could look at atomic energy, fossil fuels, and transportation systems. They made a tremendous investment in those laboratories. There are 11 of them across the nation and they are, frankly, a little underutilized today, so they're looking for clients.

I was suggesting that with the vast amount of talent they employ in that arena, we might be able to benefit from it without spending, as Professor Plourde pointed out, excessive sums of money to get the kind of product we need. This does not mean that the technology laboratories that we have here in Canada are deficient or insufficient, but it's to point out that we can enhance their value tremendously.

As I mentioned, I'm going down to Mexico next week. One of the things that we are offering to Mexico through our government here is to help them discover some of their own technological potential by using some of ours, by trading expertise, so it has some legs in that way as well.

I would say that being able to use some of the tools that we have to target incentives, investment, and innovation in our own industries, using ourselves as a living laboratory can foster and direct the kind of innovation we want to see without necessarily specifying it at the government level.

The Chair: We're into the five-minute round and I'll turn it over to Mr. Barlow.

Mr. John Barlow (Foothills, CPC): Dr. Plourde, thank you for speaking about Fort McMurray. Being an Albertan, I find this a very difficult time right now. I'm from High River. We went through the flood in 2013 and now we're going through this, and it's a very difficult time not only for Fort McMurray but for all Albertans. For me, it feels like the flood all over again right now.

Dr. Elgie, I wish I could share your optimism that it's all about getting that environmental buy-in. I often question whether there is really anything more we could do that would get the Sierra Club, Leadnow, and these lobby groups to get on board. I really question whether there's anything we could do to change their minds. That's not to say that we shouldn't continue to work towards that, and I appreciate your comments.

You talked about our poor environmental reputation and whether it is warranted. Is there anything we can do? I think a lot of it is just a matter of changing the narrative. We have groups like yours, Smart Prosperity, COSIA, and Alberta's In Situ Oil Sands Alliance, which are starting to get the word out there. Maybe not just on the regulatory side, but is a lot of it simply a question of doing a much better job of putting together a better message, putting together a better public relations plan? That may be a bad way of putting it.

It just seems that we have a good story and strong environmental records, but no matter what we do, even when some of these private sector groups, such as COSIA, which is amazing, come together and pool their resources and their ideas and their innovation, we just don't do a very good job of telling people.

Is there anything we're not doing that we can do to try to change that perception?

Prof. Stewart Elgie: You're asking a lawyer and an economist about storytelling.

Mr. John Barlow: I know it's in your inner child.

Prof. Stewart Elgie: In some ways, the Smart Prosperity initiative is about that. Part of this is probably about just telling a new narrative, about building a psychology of success in the country, about the things we are doing well and can do well. However, as you probably know, underlying any narrative has to be reality, and so I think part of it is that we need to really drive real change in oil sands production, and as we're doing that, we need to tell that story.

The story now is that we're really trying. The fact that you had the heads of four of the largest environmental groups in Canada standing on the stage with Premier Notley and four of the biggest oil CEOs does actually show that there is not a limitless bar. They got to the bar. They got to the bar where the CEOs of four of the biggest groups stood on the stage and Greenpeace put out a supportive press release that said this was good.

What they haven't yet done is backed down their campaigns against Energy East, but that takes time, and the momentum is starting to change on that.

So I would say continue to change the real practices, not just in the oil industry. Let some of the responsible environmental groups that actually want to see change be part of telling those stories themselves, because there's a certain credibility gap when it's just the oil industries that tell them. When they stand on stage with folks like the Pembina Institute or some of the folks in the Smart Prosperity initiative and they tell those stories together.... If you look on the website, you'll see lots of stories there about oil and gas innovation. They don't change the fact that we still have a high carbon footprint, but they show the really cool stuff we're trying, and if we keep doing this, that really cool stuff is going to work in five years. That's the honest story.

● (1640)

Mr. John Barlow: I appreciate that. Again, working with CAPP, you understand what those four standing on stage with Rachel Notley did to a lot of those middle and junior producers. They're not so happy. I've spoken with Albertans in the oil and gas industry who feel as though they were sold out, because those four got on stage thinking that was going to give them the social licence to get pipelines approved and that Greenpeace was going to step off, and neither of those things has happened. They went on there certainly with a goal in mind, thinking that if they stood with Rachel Notley and her carbon program, they would get these pipelines through. That hasn't happened.

I understand what you're saying....

Prof. Stewart Elgie: The other side of it, though, is that the environmental groups that stood on stage are equally getting attacked by the people at the fringe of their movement. There's a group of leaders who are trying to carve out a solution space in the heart of a very, very divisive, acrimonious debate, and people on their own are taking shots at them because they're trying to carve out a solution space.

I give them credit for trying it. They're all getting tough skin right now, but somebody has to try to carve that space out.

Mr. John Barlow: Yes, for sure. We can't stop just because it's not working.

Dr. Moore, I want to—

The Chair: I'm sorry, you're right on time.

Mr. John Barlow: Oh, sorry. That's my five minutes.

Thank you.

The Chair: Mr. Lemieux.

[*Translation*]

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

I would like to thank the three witnesses for being here today.

My question is for Mr. Moore.

On April 13, 2016, Alex Ferguson, vice-president of the Canadian Association of Petroleum Producers, appeared before the committee. I asked him about market access for Canadian petroleum, since this is of particular concern to me. This was his reply:

> If we believe that our natural resources in this country are and will continue to be an important part of our economy, we believe that there's a need to have a focused effort to find what it takes to get maximum flexibility for all of our natural resources to the right markets at the right time all the time.

Mr. Moore, in four minutes, can you explain how you think the federal government can help find coordinated solutions to achieve the greatest flexibility so that our petroleum products always reach the right markets, and at the right time?

[*English*]

Prof. Michal Moore: I would say there are three things that the government can do to make sure that the products get to market in the form that is most competitive and in the most appropriate time. We can't manipulate the market to make things get there faster or slower or sell more rapidly than other products, but we can make sure they get there in the most efficient way possible.

The first thing is to recognize that our oil products trade on world markets at the best rate they can. Heavy oil products are discounted when they finally get to distant refineries. Most of that refinery capacity today exists in the mid-continent. The United States has a lot of capacity. It can treat basically all of the product that we can send down, but it will do so at a discount, not only for the quality—in other words, they pay less to get a heavier oil—but it costs us more to ship it down. We can send product to those markets and get the best price possible when we have the most effective treaty or permission to cross with the pipelines that we have.

Second, we can move forward and begin to identify the rights of way that we'll need for pipelines, for wires, for storage capacity, and frankly for new rail facilities, where needed. The government can take a dramatically important role in identifying where those rights of way will go. Some of them will need co-operation from aboriginal groups, and some of them will infringe on private landowner rights, which we'll have to perfect in terms of compensation.

Finally, I think we can do a great service to the industry to make it as efficient as possible by identifying the ports of exit that we'll need for the future. We won't be able to depend forever on limited port capacity in the maritimes or out of Vancouver. We'll need additional ports to be able to export efficiently. I think to the extent the government can identify those, work out the details of compensation and land ownership, do it in as egalitarian a fashion as possible and eliminate some of the competition for 16 different port sites, narrow it down, and use the federal authority, the federal leadership, we'll make that market as transparent and as efficient as we possibly can.

● (1645)

[*Translation*]

Mr. Denis Lemieux: In closing, I have a quick question for you, Mr. Moore.

You said earlier that it was a good idea for the provinces and the federal government to meet and discuss energy and the environment. What are your thoughts on the last meeting in Vancouver between the federal government and all the provincial governments?

[*English*]

Prof. Michal Moore: Yes, sir. I'll admit my bias at the front end. I'm a federalist by nature and demeanour, and I applaud the leadership of the federal government in taking a role in bringing everyone together, stating the unifying forms of the debate. I think that can do nothing but good if we stay with it and provide the right forum for people to debate how to overcome regional and provincial differences.

The Chair: Mr. Doherty, over to you.

Mr. Todd Doherty: Mr. Moore, I really appreciate some of the comments that you've made. I've read your two reports, “Risky Business: The Issue of Timing, Entry and Performance in the Asia-Pacific LNG Market” and your national strategy paper.

I come from Cariboo-Prince George and I'm a proud B.C.er. In British Columbia we have some incredible LNG projects that would have far-reaching national implications.

All of the witnesses and our guests today talked about the competitive advantage that Canada has, but we also have a timing issue. As Mr. Elgie mentioned, we need to get some pipelines approved right away. We have hundreds of thousands of Canadians who are out of work.

But Mr. Moore, more to the LNG, we have one of the largest potential investment projects in British Columbian history, possibly even in Canadian history, which some have estimated could see us benefiting from up to $32 trillion in economic benefits to our GDP and the Canadian government. The British Columbian government has developed an LNG strategy with goal of having three LNG facilities in operation by 2020. Can you talk to me a little bit about the impact on jobs and economic growth in Canada if we are able to export liquefied natural gas overseas?

Prof. Michal Moore: I did write a report on that. You all have a copy of the link to it. Let me just summarize the conclusions and then point out what some of the probable opportunities are.

The first conclusion is that it's taking a long time to get that plan and the investment proposals together to try to be considered by various levels of government. In the meantime, the market in the Asia-Pacific region has changed dramatically. Let me just list two things that have happened.

The first is that, following the earthquake and the damage to the nuclear facilities in Japan, the demand for LNG shipped in to support the electricity industry climbed astronomically—up to seven LNG trains annually, a tremendous increase. Price increased, and it was very attractive for us to consider investing in that market. Now the nuclear facilities are beginning to come back on line, and the demand and the margins have collapsed quite a bit. It's changed the dynamic of how many trains of LNG we'll be able to use to penetrate that market.

Second, the market is based on contracts. It's a different market from the oil market. You arrange contracts ahead of time and you satisfy them over 20 to 25 years. If someone gets in ahead of you and scoops the contracts, you don't get back into the line again for a long period of time. That's changing; we're going to a spot market more now than we have in the past. I think that if we imagine making a decision and narrowing down the number of applicants, we'll be more competitive and we'll have a chance to penetrate what's left of that market.

● (1650)

Mr. Todd Doherty: Would you agree, though, that the timing is essential, that we need to act now?

Prof. Michal Moore: Yes, sir—

Mr. Todd Doherty: Thank you.

Prof. Michal Moore: —we're at the far edge of being nibbled at.

Mr. Todd Doherty: Mr. Elgie, we talked about having a competitive environment. We seem to talk to our partners to the south, but everything that we do.... The time that we take to think things through is very important, but Canada needs to remain competitive. Canada needs to be competitive. You talked about an introduction of a national carbon tax. Would that not put Canada further behind than some of our competitors to the south in terms of carbon tax pricing?

Prof. Stewart Elgie: It's the overall cost on the envelope that matters, right? I mean, the change in the Canadian dollar in the last year has vastly reduced costs more than any carbon price would. I think the other way that I've heard oil and gas CEOs say this is that, compared to the amount of money they're losing by not getting market access, the carbon price is small. Their view on that is probably more valuable than mine. I guess what I would say is that a carbon price is relatively modest, particularly if the revenues get reinvested in helping to boost competitiveness, and that could either by through tax cuts or investing in innovation and technology.

The Chair: We're out of time.

We will move on to the next set of questions.

Mr. Harvey.

Mr. T.J. Harvey (Tobique—Mactaquac, Lib.): Mr. Elgie, you mentioned in your opening remarks that the cost to industry of the lack of environmental confidence, or confidence in the industry in general, is $10 to $15 billion

I don't think anybody in this room doubts or would disagree with the following statement, which I truly believe, that our oil and gas sector is one of the most innovative in the world. I'm not trying to take that away from that sector at all.

As we move toward policy that's more centred around the total public confidence and a greener approach, taking into consideration that I don't believe—I think the graphs showed it very well—in this idea that we need to make a conscious choice of one versus the other, we're going to look for a collaborative approach to meeting our greenhouse gas emissions over the next 20, 40, 50 years. A viable oil and gas sector that utilizes innovations and technology and a greener approach as we move forward is going to give us a competitive advantage over other jurisdictions that choose to remain with older types of production.

My question, first, is where do you think the government should be within that process? Second, do you feel that private companies can play a collaborative role in that process with government, recognizing that the majority of large producers have said that it would be to their advantage to have a price on carbon?

● (1655)

Prof. Stewart Elgie: I guess the two go together, right? Where should government be, and do you collaborate with the private sector?

I think the opportunities for collaboration are greater now, in that most of the big oil and gas companies now agree on this vision for their future. You're not necessarily trying to pull them in a direction that they don't want to go. In some ways, they're actually ahead of the government, or they have been. They've been pulling the government in recent years to try to get in this direction. I think that's a good opportunity for collaboration.

Where should government be? We've talked a little bit about it. It's obviously a much deeper conversation. You need to pull innovation across that whole spectrum that we talked about. Professor Moore talked about building some of these research laboratories and linking into the U.S. capacity.

At the far end, we've said that if you don't have a price, you don't have a demand for clean innovation. That's the basics of it. You need either flexible regulatory standards or a price that creates a demand for it, and the government has to step in and play some role of supplementing investment, particularly in those early stages where private capital just never does. It's called the valley of death for a reason. Industry has jumped up in a way that it never has before. I think there's a real will to get there.

The other part we didn't talk about, and this goes to the cost part, is that this all has to be done in a way that also helps them not raise their costs and ideally drives them down a bit too.

Part of the innovation will do that, but again—environmentalists probably wouldn't like me saying this—one of the things we also need to look for are ways of creating more regulatory efficiency. Are there costly, cumbersome regulations in the approval system that we could find a way to make more efficient and lower the costs, so that they could invest more of the money in the green solutions that we want and less of them in the regulatory costs that don't necessarily achieve outcomes? That's just looking through the pipeline of approvals that they need and where you can find some efficiencies that buy cost savings for them.

Three years ago, I wouldn't have been very optimistic. I think there's a fighting chance that we really can put the industry on a trajectory to having a globally competitive environmental performance. We won't know for five to ten years whether we're there, but at least we're moving in that direction now, which is encouraging.

Mr. T.J. Harvey: Mr. Plourde, I have a quick question for you.

In terms of carbon emissions, as we transition over the next 10, 15, 20 years, do you believe we will have better results if we try to impose a moderate price on carbon? That's recognizing, as I do as well as everybody else, that companies need to be able to be profitable and to reinvest in themselves. Industry always drives innovation—absolutely.

Do you believe that the companies will be able to further their innovation quicker by a moderate price on carbon and then the government in turn subsidizing innovation, or just straight subsidy on innovation? Which would be the most effective route?

Dr. André Plourde: What the history of Canadian climate policy over the last 25 years has shown is that we have relied mostly on a subsidy approach and that we have not gotten the type of results we anticipated from this.

Essentially, giving an incentive for people to invest requires some kind of pricing on emissions. I think all three of us have made that point in one way or another. That gives this active role. Every time you can cut a tonne of emissions, you basically avoid paying the tax, if you think of it that way. There is a continuous type of incentive in that system.

My view, for all of this, is that you need a combination of the two. You need to give a clear signal that there is a cost to emitting, but you also need to provide some R and D or public sector investment in innovation, the way you put it.

To me, the two are not separable. Relying on just one is missing part of the strategy.

The Chair: Mr. Cannings, it's over to you. You have three minutes.

Mr. Richard Cannings: I will start with Dr. Elgie.

Minister Bennett is in New York today, announcing that Canada is fully signing on to the United Nations Declaration on the Rights of Indigenous Peoples. A big part of that declaration is the principle of free, prior and informed consent.

Could you comment on that idea and how it relates to this conversation.

● (1700)

Prof. Stewart Elgie: Can we resolve the aboriginal challenges in Canada? I think it is great that we are signing it. I think the reality is that first nations have enough power right now to impede, if not block, most new linear development if it is not in a way that ultimately benefits their interests. It is probably a good thing. I don't need to tell people here that there is a crying need for sustainable economic development in the first nations and aboriginal regions of the country.

To me, the big challenge is how to do this in a way that builds viable, sustainable regional economies in those first nation areas. It isn't just about paying them enough money for them to say that the pipeline can go through there. It is about how to take that and create the skills, training, and job opportunities that will allow these places to be thriving in 20, 30, 40, 50, or 100 years, two or three generations, from now.

Those are huge challenges. Again, that is one of the big challenges of our nation. If we can take some of the wealth we are generating from doing this and reinvest it with that specific goal in mind, we will have solved one of the biggest challenges this country faces.

Mr. Richard Cannings: Here is a quick, easy question for Dr. Plourde.

We have talked a lot about carbon pricing here. Canada has agreed, with the rest of the world, to work toward a 2°C limit on global warming.

I wonder if you have some magic price on carbon that would send a strong enough signal to people in Canada to do our share.

Dr. André Plourde: That is a different question than it was when it started. There is no price that Canadians can pay that will bring about a 2°C solution for the world. I think we need to establish that pretty clearly.

This requires a world co-operation, and I think that is the message I would like to leave with you.

Yes, there is such a price. Whether we would be willing to pay it is a different story, but Canada on its own cannot identify a price to do this.

Mr. Richard Cannings: What is the carbon price the world will have to pay, then, to get them to do the right thing?

Dr. André Plourde: I think it is a lot more than what people are charging now. I think Prof. Elgie was talking more about a hundred-dollar type of thing. That is where the conversation should start.

Prof. Stewart Elgie: You see prices like that in some places around the world right now that have viable competitive economies.

The Chair: That uses up all the time we have under the current schedule. I am going to suggest we suspend the meeting for a few moments to discuss how we use the balance of our time, if the witnesses will bear with us for a few moments.

Prof. Stewart Elgie: I will be in big trouble at day care co-op as a single dad this week, if I'm not out of here in 10 minutes, so I'll stay for 10, but don't take it personally if I leave after that.

The Chair: Thank you for the warning. We won't take it the wrong way.

Any questions for you should be posed first then.

Ms. Bergen for five minutes.

Hon. Candice Bergen: Dr. Elgie, I might ask you first to comment on this. I'm going in a different direction. The current government has now included upstream GHGs as part of the approval process for new projects, and not just pipelines, but mining and LNG, obviously.

I was recently in China and heard a new term there, which I find quite interesting. They talked about the global "handprint" as opposed to a footprint. You're chuckling, so I'm curious to see what you think about it. It would imply that a country like Canada would get credit when, for example, it sells LNG to China or wood products to China, instead of China using cement, which is highly GHG emissive. This is may be a strange idea, but do you think that Canada should get some credit for helping to reduce the global footprint in place like China when it sells its natural resources abroad?

Have you heard of the handprint idea? Do you think it's something the government should be looking at changing when overhauling the NEB and the regulatory process? If they're looking at upstream GHGs, why not look at the downstream handprint impact Canada has around the world?

● (1705)

Prof. Stewart Elgie: It's a good question. Yes, in theory, as Professor Plourde said, climate change is a global problem. The only solutions that matter most are the global systems that we change with the production, transportation, and consumption systems. When it comes to getting into fights about national accounting, and who gets the credit, and who gets the debit, there's no right answer. China wouldn't be happy if we got all the credit, because they wouldn't get credit for reducing their emissions.

The only thing I would say—and this is where Professor Moore may know more—is that it isn't inherently obvious that selling natural gas to China or other Asian countries is only going to be replacing coal. They're now investing more in wind and solar each year than they are in new coal generation. You'd have to look at a case-by-case situation to see what it was replacing; but yes, to the extent—

Hon. Candice Bergen: That's what we do with upstream. It's case by case.

Prof. Stewart Elgie: Yes, case by case works, as long as there's honest, accurate accounting.

The truth of it is that if we live in a world where there's pricing or stringent climate policy around the world, demand will drive us in that direction. This is where the beauty of a price system is. Rather than rather than having government having to sit in through regulation and ask how it can regulate everyone's behaviour to make them behave as if there were a price, you have the market tell the truth about environmental costs, whether it's in China, Canada, the U.S., or anywhere. At that point, private investment will move us in that direction, anyway, and we won't have to have government telling everyone to behave as if the environment had a cost.

Hon. Candice Bergen: I think I have time for Dr. Moore or Dr. Plourde to comment.

Prof. Michal Moore: Let me add one thing to what Professor Elgie said, and that is about the national accounts system. One reason we're entering into this discussion with Mexico and the U.S. is to try to imagine a regional framework that may in fact be a precursor to what you're talking about. It's a bit easier to manage because there are only three players. In fact, if we can make it work on a North American basis and get transferability, effective taxes, and accounting for emissions, the likelihood is that in the future it's going to transfer to or be very attractive to other countries that are larger and more diverse. It's a great place to start.

Hon. Candice Bergen: Dr. Plourde.

Dr. André Plourde: I have two quick points. I would agree with Professor Moore on the notion that North America provides a laboratory for this. I'm not a big fan of transfers for credits, because the accounting issues are phenomenal in keeping all of that straight. Is it permanent? Is it temporary? Does it matter? There's all of that kind of stuff to consider. I think it's a make-work project for public servants, who I think have better things to do with their time than that kind of thing.

Down the road, I would see something tied much more to the World Trade Organization, as part of that sort of system. If we want to expand much beyond North America, that's a road I would see worth exploring.

The Chair: Mr. Serré, I believe, over to you.

Mr. Marc Serré: We talked about the challenges we've had over the last few years and on the environmental side. Maybe Dr. Elgie could comment more. I alluded earlier to our government's interim principles that were announced in January. How do they build public confidence in major projects? Do you have any examples? Could you give some examples of how you would streamline the regulatory process.

Prof. Stewart Elgie: I agree with Dr. Plourde that environmental assessment is just one part of the regulatory formula and that it sets a low bar. You have to do that at least. It's the incentives we generate that are going to create the excellence we want. Having the minimum requirements is important, though.

Looking at the full environmental costs of a project is just good sense. Blinding yourself to the full cost is not a good idea. You don't have to change the information you have, but knowing the full cost is a good idea. We've always done that. The last case I did as a litigator was arguing that exact point in respect of energy exports from the Great Whale Dam. The Supreme Court of Canada said that it's inherently obvious that you should look at the upstream impacts of generating energy when you give permission to transport it. So this is not a new idea. It has been an inherent part of environmental assessment in North America for a long time.

That said, I think that environmental assessment should not be used as a delaying tactic. Sometimes it is used in this way. I like some of the things the previous government brought in, by putting time limits on environmental assessments. I think there needs to be flexibility. You have to recognize that just as every structure you build won't take the same length of time, every environmental assessment will not take the same length of time. Building a bungalow and building a skyscraper will not have the same time limit. So there should be a little more flexibility, but with some of those efficiencies built in.

The last thing is that if you unpack the oil sands challenges, you unpack a lot of what's jamming the environmental assessment process for pipeline approvals. People don't feel they have a forum to talk about oil sands issues, so they shove all that stuff into the pipeline approval process. It really shouldn't be there. If you take that out, pipelines become about pipelines again.

● (1710)

The Chair: Dr. Moore, you talked about the need for an energy strategy. You have also referred to Wayne Gretzky going where the puck is going to be, not where it was. I take it from those comments that you believe that the current strategy or system isn't working, or that it needs improvement.

Prof. Michal Moore: I don't think we have a strategy today. We have a series of moving agreements and some policy fixes between provinces or parties, which don't have a long tenure. If we could change the way we look at how to react to markets and act more collaboratively, then we would be able to define a strategic intent.

Where do we want to be tomorrow? Do we want to continue to be an energy product exporter? Do we want to be involved in transformative industries that take the next step, which is probably more electrification and more chemical products instead of raw and unupgraded oil and gas products? If we could have that conversation and decide on a strategic goal, then we'd be at the beginning of a strategy rather than being involved in a series of interlocking plans.

The Chair: You also made it clear earlier that you're a federalist, and you seem to be applauding the fact that the federal government is embracing the provinces. I'm going to interpret that to mean you believe public engagement is necessary. It shouldn't be mandated. It should be based on consultations and gathering views from people who are involved in the process. Is that fair?

Prof. Michal Moore: That's fair. I would say that bringing the public in creates transparency in respect of what the decisions are and what's at stake. They should feel involved, but not afraid to call time out, not afraid to make a decision. They need to exert the unifying leadership that is the mark of a federation, as opposed to a lot of linked provinces that are operating independently of each other and the federal government in their energy decisions.

The Chair: I assume you agree that this process should include all levels of government, the industry sector, the aboriginal community, and environmental groups. Would that be fair as well?

Prof. Michal Moore: That is absolutely fair.

The Chair: Mr. Barlow, over to you.

Mr. John Barlow: Thank you, Mr. Chair. I appreciate having the extra time. I'm going to start with Dr. Plourde first.

You said that one of the most important things we could be looking at here was to allow industry to play the key role and government to set policy. From what we've heard from speaking with many in the industry, I think they're not looking for handouts. They're just looking for a framework for them to work in. They will invest the money and take care of that.

What role do you see for us here, in this committee? What's the message that we could take forward to government and to the minister? What role do you see the government playing and what role do you see the private sector should have? Should we be getting out of the way and letting the private sector try to drive this innovation and the environmental policy, or not drive environmental policy but be more the leader than having government take that lead role?

● (1715)

Dr. André Plourde: I think governments should have ambitious public policy objectives, put it that way. I think that's the responsibility of government: to identify what the public policy objectives are and to make sure they're ambitious in any kind of measuring. We've got international agreements, for example, to adhere to. We've got all kinds of other things. Then I think the role of governments is basically to set the policy framework, as I tried to say before. After that, there is potentially a role for it in being a direct participant in R and D types of projects. There is, as has been highlighted before, a role for it in setting the regulatory framework and in exercising that regulatory framework.

I find it more difficult to find a role for government in setting the direction that industry should be moving in. Signals should come from governments; decisions should come from people who are close to the activities. In my view, the latter know better than somebody sitting in an office somewhere at a distance from all of this about what key decisions are to be made and what competitive advantages are to be exploited. That's my view.

Mr. John Barlow: Just to follow up on my colleague's question, which you touched on it, one of the biggest impacts that we could have as Canadians on global GHGs is to sell our LNG to China. That would have a much more profound impact than worrying about our 2% that we are doing. I just wanted to put that out there, that it would have a much more profound impact on globally GHGs, if we get get our products to market.

You also talked about the importance of a long-term strategy 10 to 15 years up the road. We always hear about the impact that uncertainty has on the industry. As an Albertan I hear that every single day. Can you elaborate on that? What would that strategy or framework look like? Right now we have the approval process being modernized, but no one's said what the modernization is. We're going to do that months down the road, where we have two key projects waiting and ready to start to go through that process. What would that strategy look like, and how important do you feel it is for industry that once we make some decisions, we stick to that protocol so that industry knows the strategy and the structure they're dealing with?

Dr. André Plourde: I think there are two things I would say in response. First of all, industy has to live with a lot of uncertainty on the exchange rate side, and also on whether the contracts are going to be there for them to sell the product. A characteristic of the operating environment of the conventional energy industry is that there are these elements of uncertainty. It seems to me that policy should aim not to worsen the kind of uncertainty framework that industry has to deal with.

That said, I do think that it's important to give clear signals. I do think there is a role for public sector investment in research and development. I think all of us have said similar types of things. But I also would like to point out that Alberta has completely revamped its energy regulatory practices in the last decade. It has done so consultatively, but it has done so because the realities of the industry will change as we move along. Policy and regulation must keep up with those changes.

I'm making the point that if we're putting in place something that will not change for the next 15 years, it would be a bad idea. We need to make sure that we stay at the forefront of the needs of both consumers and producers, and Canadians more broadly. That will require some adjustment as we move along. I would say, look at Alberta as an example of where those types of changes have occurred over the last decade.

Mr. John Barlow: Flexibility.

Dr. André Plourde: But, principled flexibility, not just waking up one morning and deciding you want to do something different now.

Mr. John Barlow: Exactly.

The Chair: Mr. Harvey, we'll move over to you.

● (1720)

Mr. T.J. Harvey: Dr. Moore, my question is centred around the innovation—primarily industry driven—that we've seen over the last number of years and will see going forward within the oil and gas sector to try to meet the oncoming needs to get social licence to continue. Do you feel that the industry could benefit more from a price on carbon, or cap and trade? Which system provides the greatest amount of flexibility and operability to the industry as it looks to innovate and grow further?

Prof. Michal Moore: The idea of a carbon tax provides a whole lot more certainty to industry. Even if it's projected to change, they can identify with what it tells them about the technologies or the procedures and processes they're using, whereas a cap and trade system—especially on something that contains methane or carbon dioxide, which is not at all localized once it gets into the atmosphere —allows a lot more flexibility in the changes from the legislative or the policy side, and adds to what Professor Plourde just referred to as the risk characteristic. Diminishing their perception of risk or the risk they have to face in the marketplace for funding or for continued operations is all to the good.

In that context, this type of problem, fixing on an appropriate, clear, and transparent carbon tax or carbon charge, based on what it takes to neutralize the bad elements of carbon dioxide or methane, is far preferable than a cap and trade system.

Mr. T.J. Harvey: Over the last number of months there's been a lot of talk about the federal government's lead on the climate change file and its effort to foster a collaborative approach with its provincial counterparts. I want to get your thoughts on that approach and how you feel it's going. Is the federal government's lead and encouragement of the provinces to come on board and to work collaboratively with it going to further our purpose in trying not only to meet our GHG emission requirements, but also to foster the type of environment that will allow projects like Energy East or the Pacific NorthWest LNG proposed pipeline project to go forward?

Prof. Michal Moore: As your chair pointed out, I've revealed my bias on where I think the centralizing and, let's say, the most persuasive leadership, ought to come from. Collectively as a nation, we have drifted a long way from the vision I projected in the national energy strategy document you have there. We will not move back overnight to a place where federal standards for environmental quality or even for leadership in trade opportunities will come to the fore.

However, I think you're on the right track. Having the federal government provide the incentives and to demonstrate what the possibilities are is, frankly, going to lead to a better outcome, one where the collective benefit for Canada far outweighs any individual province that might create a cap and trade program with a foreign country, or some other benefit that goes strictly to north-south relationships.

There will be a couple of opportunities to demonstrate collective benefits or the things you can reward provinces with: a pan-east to west, or west to east, electric wire system is probably out there in the future and it's going to provide tremendous collective benefits. It's the same with an energy system that provides data and analysis equally to all the provinces to better their own lot. That's all going to be driven by federal leadership and example.

● (1725)

The Chair: Mr. Cannings, over to you.

Mr. Richard Cannings: I'll just ask this of Dr. Moore. We've heard a lot in this committee over the past few weeks about innovation and how we need to foster and incentivize that, especially in the oil sands—as Professor Elgie was saying—to help our environmental reputation as well as, hopefully, reducing costs. However, we heard from COSIA that the new innovations they were working on—some of which are very exciting—were only going to be played out in new oil sands projects. The ones that are already extant would not generally use them. Now we hear that the new oil sands projects are constrained by low oil prices around the world.

I'm just wondering if you have an opinion on what oil price would get these projects going again.

Prof. Michal Moore: Well, my opinion about what the oil price could be is certainly not what the oil price has been. I'm going to guess that we're not likely to get much above $60 in the future and that this is going to be a world price for oil that will reflect the cost of extraction and processing. That may not be sufficient to incent smaller and newer firms to participate. In fact, it probably leans back toward those well-established firms that can afford the investment.

Let me just give you one really short example. Years ago some of the Shell engineers were experimenting with using carbon dioxide as a medium to be able to move petroleum coke in a pipeline. In other words, they were trying to create a slurry using carbon dioxide at such pressure that it created a liquid, to be able to move both of those products to locations farther south, for instance, where they could be injected or neutralized. That didn't come from government incentives, but from their trying to creatively problem-solve how to deal with future constraints on carbon dioxide. I think that's likely to be sponsored very well only by the larger and pre-existing firms.

The Chair: You have 30 seconds, if you want it.

Mr. Richard Cannings: Dr. Plourde, you have 30 seconds to comment .

The Chair: You have 20 now.

Dr. André Plourde: I guess the future in oil sands, to my mind, remains with very large firms, because these projects, individually, are so costly that it's very hard to assemble the capital necessary to make them work. I feel that the future of the oil sands requires a lot of investment in the operations on the environmental side. I don't see this as a play where a lot of small players are going to be involved.

The Chair: Great.

Thank you very much, and to Professor Elgie, too, who I understand had to leave.

That was very informative and helpful. I was going to say that it reminded me of being back in school, with the difference being that I actually paid attention and took lots of notes today, which is a compliment to both of you.

I don't think there's any other business for today. We'll see everybody on Wednesday at the same time, but I don't know where.