HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Natural Resources

RNNR • NUMBER 077 • 1st SESSION • 41st PARLIAMENT

EVIDENCE

Thursday, April 25, 2013

Chair

Mr. Leon Benoit

Standing Committee on Natural Resources

Thursday, April 25, 2013

● (1530)

[*English*]

The Chair (Mr. Leon Benoit (Vegreville—Wainwright, CPC)): Good afternoon, everyone. We're continuing our study of market diversification in the energy sector. I think our first meetings have been very productive, and we have a very strong lineup of witnesses today.

We have, from the Conference Board of Canada, Michael Burt, director, industrial economic trends. Welcome.

From the Building and Construction Trades Department of the AFL-CIO, Christopher Smillie, senior advisor, government relations and public affairs, is here. Welcome again.

From Corporate Knights Incorporated, Toby Heaps, president and co-founder, is not here yet, but we'll look for him to come.

We have, by video conference from Calgary, from the Fraser Institute, Kenneth Green, senior director, energy and natural resource studies. Welcome to you, sir.

We'll have the presentations in the order that you're on the agenda, starting with, from the Conference Board of Canada, Michael Burt, director, industrial economic trends. Welcome, and go ahead with your presentation for up to seven minutes, please.

Mr. Michael Burt (Director, Industrial Economic Trends, Conference Board of Canada): Thank you for inviting us here today. For anyone who is unaware, the Conference Board is a non-profit think tank based here in Ottawa.

I was asked the question, "What is our export market diversity when it comes to energy?" before I came here today. The simple answer is "None."

We export 70% of our oil production, 60% of our natural gas production, 7% of our electricity—all of it to the United States. We have one buyer for all of those products.

Now we also import a lot of those products. For example, much of the oil that's consumed in central and eastern Canada is imported. We import natural gas products, which are used as an eluent in the oil sands industry in Alberta. We are importers as well as exporters, but we are significant exporters of all of those energy products.

The system has worked until recently. What we've seen in recent years, the last couple of years in particular, is technological changes fundamentally altering the supply-demand relationship for energy in North America—oil sands development, horizontal drilling, fracking in shale oil, shale gas. There's been a big increase in the supply of energy in North America, but demand has been relatively flat. The end result has been lower prices for our energy relative to world benchmarks.

Why would it be desirable to diversify? First of all, we'd be able to take advantage of those price differentials. Let's just put some figures around this. Right now, the price of Brent oil is about $100 a barrel; the price of oil, West Texas Intermediate, in the U.S. is about $88 a barrel; here in Canada, Western Canadian Select is $72 a barrel.

Quality differences account for part of that, but a big part of it is that we have one destination for all of our exports, and that's the U.S. midwest. It's not even necessarily going to all of the U.S.; it's really just going to one fundamental location in the United States.

In the case of natural gas, prices are often two to three times what they are here in North America, if we look at markets in Asia or Europe. This is translated into billions of dollars of lost profits, lost tax revenues, lost royalty payments for our governments.

It can also have a negative impact on our investment and job creation in the energy sector. Just to give you an idea, drilling activity in natural gas here in Canada is now about 90% below its peak levels of activity. The low prices are having a definite negative economic impact on what's going on in our energy sector.

Another reason why we would want to diversify our markets is to reduce market risk. Demand for energy in North America is pretty flat right now. We're not seeing a lot of growth. But that is not the case worldwide. Emerging markets are seeing significant growth in energy demand. If we had access to those markets, we could take advantage of that growth.

The third reason to want to diversify our export markets is policy risk. The U.S. is our friend; they are our neighbours, but right now we're captive to their policies. Probably the best example of this is the proposed pipeline to the United States gulf coast, the Keystone XL Pipeline. There are other examples as well.

Basically, more customers mean more bargaining power, more options in what we can do with our energy products.

How do we achieve export market diversity? It's deceptively simple. We build the infrastructure that's required to get our products to other markets. But it's easier said than done. Basically we need to reach tidewater. If we can get our products to the ocean, we can ship them pretty much anywhere in the world.

In reality, as I said, it's easier said than done. In terms of electricity, it's really not feasible. We have one neighbour. Undersea cables are expensive. Our potential customers are far away. It's not really feasible.

With natural gas, it's possible. It's likely. We have several potential projects under development in B.C. right now to export liquefied natural gas from Kitimat, B.C., but those projects are still years away and they're not definite yet. We still haven't necessarily gotten all of the pieces in place for those projects.

In the case of oil, it's a necessity. Given the oil sands projects that are on the books right now, that are expected to be developed over the next 10, 20 years, you're talking about oil sands production doubling from their 2012 levels by 2020, and tripling by 2030.

Where is that oil going to go? There are potential projects already in place—the Keystone XL project that I mentioned, and the potential for a west-east pipeline here in Canada. But to help give you an idea of how much oil we're talking about, even if both of those projects are developed, that would still only account for about half of the total expected increase in oil sands production. We need to find other ways to move that oil.

● (1535)

We can do such things as move it by rail. That's something many rail operators are working with right now. But it has limitations; I've seen upward estimates that we may be able to move 800,000 barrels a day using rail. That's only about a quarter of the total increase we're talking about over the next 15 or 20 years, so essentially we need to find a way to move oil to market, if we're going to see the development of that product over the years to come.

Thank you.

The Chair: Thank you very much for your presentation, Mr. Burt.

We go now to the Building and Construction Trades Department of the AFL-CIO, to Christopher Smillie, senior adviser on government relations and public affairs.

Welcome again. Go ahead with your presentation for up to seven minutes, please.

Mr. Christopher Smillie (Senior Advisor, Government Relations and Public Affairs, Building and Construction Trades Department, AFL-CIO): The third time's a charm, right?

Thanks for having me back. We're the Canadian building trades; we represent about 550,000 skilled trade workers, in every province, coast to coast.

I received the invitation and thought about market diversification. I talked to some of our folks. Quite simply, market diversification for us means job expansion. It appears from your backgrounder papers that you're looking at export product and diversification of supply, so I'll talk about each of those quickly and then answer any questions you have about the job impacts.

As my colleague said, export market diversification means more customers for “made in Canada” products, so that ultimately Canada can become a price maker and not a price taker. Ultimately, for the skilled trades it means that the projects are more certain and that our employers can bid on more projects and on a more diverse scope of work, once that price-making ability is in effect.

Project diversification is interesting for us. Whether it's for diesel fuel in Sarnia or jet fuel at the refinery in New Brunswick, the work prospects for the skilled trades in those markets should be better.

If the demand for a particular finished product wanes or waxes depending on the economy, refineries in home towns and the resident workforces who live there are less vulnerable if other products are being demanded by the market and by other markets.

If we're exporting natural gas to global markets, that means more work on pipeline infrastructure, more work on holding tanks, on liquefaction plants. These all add to the work scope of the skilled trades in Canada. If we're exporting natural gas, we think the natural gas liquids should be stripped off here in Canada and that the plastic and the byproduct industries should produce here.

This is a potential increase in work scope for us. The Alliance Pipeline was a major success in getting Canadian resources to market. It spawned a series of industrial complexes just outside Chicago, but if we increase pipelines such as this, hopefully that kind of industrial complex will come to Canada.

Diversification of supply is also important. When oil sands facilities use natural gas feedstock or when electricity generation facilities in Ontario are using natural gas for feedstock, the abundant supply of these products means project certainty in Ontario. If we know that the natural gas is going to be there, people are going to be incented to build more co-generation facilities to produce electricity for Ontarians.

As for LNG, our becoming involved in the LNG business would do three big things.

It would increase the need for pipeline spreads, which require thousands of workers—even more, if we factor in, as I said, the stripping off of the natural gas byproducts.

It means thousands of jobs building and maintaining these LNG facilities. For every $1 billion a company spends on an LNG plant, there are about 4,000 direct construction jobs. Then, behind every 600 construction jobs, about 100 other jobs are created to support those jobs. The sustaining capital invested in an LNG plant—and there's a proposed one in Kitimat—really would be a game changer for workers in British Columbia and other places.

Also, LNG would increase jobs in the shipbuilding industry, because naturally you have to ship those products to every other market. It means that our shipbuilding industry will benefit as well; there would be tons of skilled trades jobs at those deep port facilities.

Let's talk about electricity, quickly. If we're going to be serious about electricity transmission in an east-west fashion, the line infrastructure associated with this move will provide work for thousands of workers. However, we have to be cautious. Does it make economic sense to generate electricity in remote locations and then transmit it long distances to where people live? What does make sense is for Quebec and Ontario to be able to produce electricity and sell it to one another. It also makes sense for Ontario electricity producers to be able to access the east coast without having to sell through New York State to get to other provinces in eastern Canada.

Should hydro energy produced in northern Manitoba or Labrador flow south to the U.S. market if there's demand in Ontario? Let's figure out a way to connect the grids for Ontario. There's a real need to have a plan in place for electricity generation.

● (1540)

I'll talk a little bit about west-east oil.

TransCanada Pipeline's “Energy East” pipeline makes enormous sense to us. It connects jobs between Alberta and New Brunswick. If the refineries in Ontario, Quebec, and New Brunswick want to buy the product that Alberta has to offer, which I'm sure they will—you talked about the discount—that will certainly benefit job prospects in New Brunswick, where skilled trades work has been flat for a long time. Whether it be an Energy East pipeline or a Line 9 reversal, it means jobs at either end. It also means jobs every 75 kilometres along the pipelines for pumping stations, maintenance, etc.

East-west pipelines may mean that Quebec refineries will be busy again. Maybe the old Petro-Canada facilities in Oakville and Clarkson will be busy again. Those are all good news stories for local constituencies and local workers.

I made a presentation previously on pipelines and the job prospects specific to them, so I would refer the committee to the numbers I talked about for those; I won't repeat them. What I do want to say before I finish is something I presented before: that developing some of these natural resource projects could be a show stopper. I think Canada can get it right, but we need to get the people thing right. To be an energy superpower, we have to be a labour force and training powerhouse.

I think there is $600 billion or $700 billion in the Major Projects Management Office, at the same time as there is a large demographic shift in our population. I took a look at our national membership data, and the “most frequent age”—my wife, who is an accountant, tells me that's the mode, and thinking back to my statistics course.... The most frequent age in our national membership is 52. What does that mean for projects that are planned for six years into the future, or for projects that are planned for 10 years into the future, or 15 years? We have to make sure we get the training and the labour force supply thing right if we are to be able to supply the people for these projects.

I've talked to the HUMA committee about some things that I think link back to things you're talking about here: there are inefficiencies in our training systems; there are negative perceptions about a career in the skilled trades, and I think we've all come across that; and there are employers who won't hire young people to get into an apprenticeship. Many young Canadians come to us on a regular basis who, after a post-secondary education, don't have any incremental attachment to the labour market. These people need to be directed to the skilled trades before they go into post-secondary education. There are issues with community colleges, but I won't go into those.

At the end of the day, to be an energy powerhouse and to do some of the market expansion stuff we're talking about today, we have to get the people thing right. The budget in March was a good start. It talked about encouraging new people into the skilled trades with the Canada job grant, revamping the LMDA and the LMA funding so that there is more federal control, and aligning training to jobs that are available.

My wife told me not to say this, but has anyone seen *Field of Dreams*, starring Kevin Costner? There is a saying from that movie: “If you build it, they will come.” My submission is that if we don't get the people thing right in the energy sector to build these natural resource projects, they won't come. Canada has a real opportunity ahead of us over the next number of years to succeed, and we need to get the people thing right.

Thanks very much.

● (1545)

The Chair: Thank you for your presentation, Mr. Smillie.

We will go now to Calgary. By video conference we have, from the Fraser Institute, Kenneth Green, senior director, energy and natural resources.

Go ahead, please, sir, with your presentation.

Dr. Kenneth Green (Senior Director, Energy and Natural Resources Studies, Fraser Institute): Mr. Chairman, members of the committee, thank you for having me here today.

I am Dr. Kenneth Green, senior director of energy and natural resources at the Fraser Institute, which is a non-profit, non-partisan public policy research institution headquartered in Vancouver. I am working out of the Calgary office here in Alberta.

The views I'm going to present are my own. They don't represent those of any other people or those of the institute itself.

I've studied energy and environmental policy at think tanks in North America for about 20 years now, and if there is one overarching conclusion I've reached, it's that we are, in the literal sense of the words, an energy civilization or energy society.

Producing, consuming, and trading in energy commodities literally empowers us as individuals, as communities, and as a society. It's our access to abundant and affordable energy that enables the high quality of life we enjoy. So getting energy policy right is of huge importance to the Canadian people.

Recently, I co-authored a study with Fraser Institute senior fellow Dr. Gerry Angevine, looking at the question of Canada’s status as an energy superpower. Our conclusion was that rather than a superpower, Canada is poised to become an energy superproducer. My testimony draws heavily from that study.

Energy commodity production has a very large impact on Canada’s gross domestic product and employment. Oil and gas extraction contributed approximately $94 billion to GDP in 2011. Natural gas extraction alone, including drilling and support services, contributed $10 billion to labour income and $64 billion to GDP in 2008.

When you look at total employment in the sector, including direct and indirect employment, the energy sector as a whole accounts for approximately 663,000 jobs, or almost 4% of total Canadian payroll as of 2012.

Canada's oil and gas producers contribute considerable amounts of revenue to government coffers. They contribute between $17 billion and $20 billion to the provincial and territorial governments every year in the form of royalties, land-lease payments, and licences.

But we can do more.

Among the world's top ten crude oil producers, Canada ranks sixth, behind Russia, Saudi Arabia, the United States, China, and Iran. But that oil production is poised to increase substantially as a result of investments in facilities for the oil sands and to produce crude oil from shale formations.

The most recent long-term projection by the National Energy Board suggests that Canadian oil production could reach 4.5 million barrels per day by 2020 compared with three million barrels per day in 2010, which is an increase of 50%. Growth in the production of oil sands bitumen alone could contribute $50 billion per year in royalties by 2033 compared with $4.5 billion in 2011.

Canada is the fourth-largest producer of natural gas in the world, but it could increase that considerably. There are, as previously mentioned, projects under way in British Columbia pending approvals that could lead to a significant increase in natural gas exports.

We already sell considerable amounts of electricity in the United States, but our study found that we could double hydroelectric capacity in the future and sell basically twice as much as we do now. Virtually all of this, of course, goes to the U.S. market, which brings us to the importance of market diversification.

In the background information sent to me by the committee, there are several questions regarding market diversification. I will turn to a few of those with my remaining time.

What are the key drivers of energy market diversification? Why are Canadian energy producers looking to diversify their markets?

Well, the biggest driver of the need for diversification in marketing Canada's energy products are the changes under way in the United States, where a combination of forces are quickly eroding America's need to import Canadian oil and gas. According to the U. S. Energy Information Administration, America's shale gas revolution has positioned the country to be self-sufficient in natural gas by 2020.

New methods of producing oil are also causing a renaissance in oil production in the United States, where there are predictions that the U.S. will overtake Saudi Arabia as the world's largest oil producer by 2020. The IEA predicts U.S. self-sufficiency in oil by 2035.

In essence, the U.S. need to purchase Canadian oil and gas is on a rapidly diminishing trajectory. At the same time, Canada is poised to increase its capacity to produce oil and natural gas to a much greater extent than projected growth in domestic demand for those commodities would satisfy.

Canada has to realize the value inherent in its energy resources. Pathways have to be developed that will allow oil, natural gas, uranium, and other energy products to reach hungry and growing energy markets overseas, especially in Asia, but also in parts of Europe and elsewhere in the world.

● (1550)

Another question that was asked is what are the key advantages and risks involved in diversifying Canada's energy markets? Well, the advantages are sort of obvious. Having access to a number of new markets and growing markets that can replace the U.S. oil and gas import requirements would let us preserve the benefits we get from selling those products in the face of U.S. reduced demand. It would also make Canada less vulnerable to specific developments in the U.S. with regard to energy production or consumption, economic contraction, or political issues, because it would gain us access to countries that aren't influenced necessarily by what happens in the United States.

The risks involved in diversification strike me as being relatively limited. There are, of course, always risks involved in moving oil and gas, and we would have to pay careful attention to safety considerations when we talk about how we move natural gas and oil to tidewater. But again, these are very old technologies, well-understood technologies, and there's no reason to think we can't add pipeline capacity safely to move those goods to markets.

What are the key barriers to diversification of Canada's energy markets? Primarily it's opposition by environmental activists and first nations peoples to the construction of pipelines to transport oil from Alberta, Saskatchewan, and the Northwest Territories to refineries and coastal port facilities on Canada's east and west coasts.

Not only are environmental activists opposing the construction of new infrastructure such as Keystone XL, they are, in the words of Keith Stewart, the climate and energy campaign coordinator for Greenpeace Canada, who I was on television with a couple of weeks ago, increasingly gearing up to oppose the retasking, rerouting, or expansion of existing infrastructure in Canada that might in any way facilitate the movement of Canadian oil sands bitumen to any markets at all.

Their goal, as is the goal of Bill McKibben of 350.org—one of the most influential climate advocacy groups—and former NASA scientist James Hansen, is to keep Canada's bitumen in the ground.

Another major barrier to energy product development and diversification in recent years has been a cumbersome, duplicative, time-consuming, and costly regulatory approval process. The actions the federal government have taken to speed that process up have helped, but more can be done—for example, preventing the abuse of hearings we've seen in the situation such as the Northern Gateway project application.

Finally, what role can the federal government play in maximizing advantages and minimizing risks in Canada's energy market diversification? There are various actions the federal government could take to facilitate diversification.

As I've mentioned, they can and should continue streamlining permitting for infrastructure development. They can strengthen trade agreements and open new markets with other countries for Canada's energy products. They could help via immigration policy, as was previously mentioned, that ensures Canadian energy product developers have access to skilled labour and a trained labour pool. And they can continue to work to resolve the issues involving first nations land claims and legitimate environmental concerns.

Finally, they could help to ensure opportunities for investment in capital-intensive energy products are competitive with similar opportunities in other countries by ensuring Canadian cost allowances and fiscal terms are competitive.

Thanks for inviting me to testify today. I look forward to your questions.

● (1555)

The Chair: Thank you very much, Mr. Green, from the Fraser Institute.

If Mr. Heaps from Corporate Knights Inc. arrives, we'll halt proceedings and hear from him. Until then, we'll go on with the questions and comments.

In the seven-minute round we have Mr. Leef, followed by Mr. Julian and then Mr. Garneau.

Go ahead, please, Mr. Leef, for up to seven minutes.

Mr. Ryan Leef (Yukon, CPC): Thank you, Mr. Chair.

And thank you to both our witnesses present and the one appearing on video conference.

Mr. Green, my first question will be for you. You started touching on the vein I wanted to go down, right toward the end of your comments. You talked about the need to find these emerging markets, and some of the risks and risk management.

It has certainly been said before that there's always a cost to doing something, but there's also a cost to doing nothing. From your perspective, could you give us some comments on where we would be, or what is the cost if we did nothing, in terms of the trajectory we would follow? I see these numbers from 2012 to 2035, that there's going to be exponential growth, both in LNG and oil demand, and that's GDP contributions.

If we just stall out now and don't keep up with the pace in what was described in our last committee as a bit of an energy race...what will the cost mean in real terms to Canadians if we do nothing?

The Chair: Go ahead, Mr. Green.

Dr. Kenneth Green: If we do nothing, essentially we strand the resource. We lose the profits, the revenues, the byproducts, and the labour that are all associated with that activity. As we lose that economic activity in the country, our GDP, of course, moves backwards. When you're talking about something that contributes 4% or more to GDP—I think it's actually closer to 7% or 8%. If your growth slows by 2% or 3%, you're in a recession. If it slows more than that, you're in a depression.

The consequences are very severe if we choose not to do anything, and those are only the direct consequences of not being able to sell our product. The indirect consequences are that we're less attractive as a place for manufacturing. If we don't produce at higher levels, we also don't have the energy at the prices that perhaps the United States is going to have for natural gas, which makes us less competitive against our competitors and trading partners. There are competitiveness elements as well.

Then there's a global perspective. There's a moral perspective, in my opinion. There are two billion people in the world who live in energy poverty. They have virtually no access whatsoever to energy. Canada plays a positive role in world trade and it can play a positive role in world energy trade. I think there's a moral obligation to do that. So we would have moral losses as well as economic.

Mr. Ryan Leef: We've heard in testimony that only a couple of projects are going to be approved as we move forward on specific pipeline projects, as an example, because they're long-term contracts signed with the producer and the consumer, due to the cost of infrastructure.

If we were to leave the bitumen in the ground.... As you noted in your testimony, there would be some extreme positions on this that would want to see the bitumen remain in the ground. There's no doubt that we hear some extreme positions where I'm from in the Yukon, in that they'd like to see the LNG remain in the ground. Would we ever catch up if at any point that were to win the day? Could you ever not do it and then...? How difficult would it be to catch up if you decided at a point that it was a mistake?

The Chair: Mr. Green, go ahead.

Dr. Kenneth Green: Well, if we let the infrastructure wither, if we let the labour pool wither and be exported.... The labour is going to go where the jobs are, so the people who are skilled in the production of energy will move. If we let ourselves get far enough behind, ramping back up to try to compete is certainly going to take time. We'll be behind the diamond, and it will be more challenging to get back in production.

Perhaps this is just my innate optimism, but I can't really believe that people are going to...[*Technical difficulty—Editor*].

Sorry about that. I don't know what that was about.

At any rate, perhaps it's my optimism, but I believe that Canadians are going to be smart enough to realize the value of their energy resources and what it means to their lives, and it will be produced eventually.

● (1600)

Mr. Ryan Leef: Do I still have some time, Mr. Chair?

The Chair: You have two and a half minutes.

Mr. Ryan Leef: Mr. Burt, maybe I can get your perspective on how important diversification is to smaller markets. You mentioned getting product to tidewater, and of course in the territory a lot of the tidewater accessible to us by road is into Alaska. Do you have any experience of or any input on what kind of relationship we have and what kind of work or what kinds of cross-benefits exist when we're moving through U.S. destinations and not just to U.S. destinations with product?

Mr. Michael Burt: There's the potential for that even with the Keystone XL, because it will be taking the product all the way to the Gulf of Mexico. We could potentially get it on ships at that point. If we can get it to ports in the U.S., whether it's through Alaska or through Texas.... There's even been talk about one of the pipelines that currently runs from Maine to the refineries in Montreal being reversed if we start shipping oil sands oil from western Canada to eastern Canada. It's possible, and it will allow us to have that benefit of access to foreign markets.

Obviously, some of the benefits, in terms of the jobs that go with pipelines, would occur in the United States rather than in Canada—for example, the pumping stations and these sorts of things—but we would certainly benefit in terms of some of the other risks we've been talking about, such as the difference in prices and the political risk that comes from having only one buyer for our product.

Mr. Ryan Leef: That diversification would help offset certain costs in terms of development as well?

Mr. Michael Burt: From our perspective, if the projects that are on the books are to proceed, we need to have the capacity to move it to market somehow. It's almost as though that transport capacity is a requirement for those developments to take place. So essentially the costs of those developments will be offset; the cost of the pipeline developments will be offset by the development of the actual energy products here in Canada.

The Chair: Thank you, Mr. Leef.

We'll now halt the questioning.

Mr. Heaps, are you ready to make your presentation?

Mr. Toby Heaps (Chief Executive Officer and Co-Founder, Corporate Knights Inc.): Yes, Mr. Chair.

The Chair: Okay. Go ahead with your presentation please.

This is Toby Heaps, chief executive officer and co-founder of Corporate Knights Incorporated.

Go ahead for up to seven minutes, please.

Mr. Toby Heaps: Thank you, Mr. Chairman. I would like to apologize to the members for being a little late. I was ushered to the third floor, to another committee room, and halfway through my presentation we figured out it was the wrong one.

I head up a group called Corporate Knights. We have a media investment and advocacy wing. The advocacy wing is called the Council for Clean Capitalism, and its comprised of the CEOs of nine major Canadian corporations, including Interface, Mountain Equipment Co-op, Teck Resources, SunLife Financial, TELUS, Vancity, and Catalyst Paper.

Together our members employ over 200,000 people, generate $50 billion of revenue, and control over half a trillion dollars of assets under management.

Today I'm going to talk about market diversification in the context of our abundant energy resources, a topic that lands square in the middle of our country's biggest economic opportunity of the century.

I'd like to start by considering what would happen if a Martian were to look down on our great continent today. What would he see? He would see a land rich in oil and gas bounty, and even richer, especially in the north, in fast-flowing water and fast-flowing wind. He would see that the north part of North America, Canada, has most of the clean and fossil energy potential on the continent, and the south part of North America, the U.S., consumes 90% of the energy, which makes sense because their economy and population is about 10 times larger than Canada's. If he examined trade patterns, he would see most of the energy flows north to south, and that while Canada provides the U.S. with 28% of its oil needs, it only provides 1% of its electricity needs.

If he looked at our national accounts, he might be perplexed to see how we could be running provincial and federal deficits in the middle of harvesting the fruits of an asset that took a billion years to forge.

If he looked at greenhouse gas emissions, he would note that the epicentre of Canada's burgeoning fossil fuel extraction, the oil sands, is responsible for about 50 million tonnes of annual greenhouse gas emissions, or about one-twentieth of the two billion tonnes that the U.S. coal-fired electricity plants belch out each year. And yet if he were to read the newspapers, he would note the energy conversation between business, government, and civil society is near monopolized by the narrow question of pipeline or no pipeline, how much Canada's economy needs more oil pipelines and how bad this is or will be for the environment. It's the old jobs versus the environment debate. It's bad for the environment because the pipeline will abet carbon-intensive oil sands. They will require loads of natural gas to steam out the oil, even though tapping a tiny fraction of the 11,000 megawatts of hydro potential lying fallow in northern Alberta would make the in situ oil sands close to a zero carbon operation.

At this point, the Martian might start wondering, given that Canada has economic clean electricity assets that far exceed their fossil fuel assets, why are the Canadians selling the Americans 28 times more of the oil needs than electricity needs? And why are the Canadians spending so much effort trying to sell the Americans their dirty oil and so little trying to sell their clean electricity? The main part of the answer to the first question is that we have a lot more pipelines than we do power lines. Most of our best clean electricity assets are stranded away from their potential customers. As far as I can see, there's no good answer to the second question beyond inertia, although one might note that the Canadian Hydropower Association seems to have about one employee for every 20 at the Canadian Association of Petroleum Producers.

The bigger issue is that the natural energy question is being tackled in an adversarial clean versus dirty energy kind of way. That is most unfortunate for both the environment and our energy-driven economy. What if we consider how clean and dirty, or conventional, if you prefer, energy can go together in a way where the sum is much greater than the parts? For example, imagine if Canada's oil sands were powered by hydropower, green power, by the high voltage backbone vision for Alberta that the ATCO group is calling for. Instead of being among the dirtiest, it would be among the cleanest forms of oil in the world, almost green from an extraction perspective.

Imagine if instead of fighting for pipeline corridors we were putting forward energy corridors, co-locating pipelines and super-conductor electricity power lines that can fit in the same existing right of way. This is an idea that the Electric Power Research Institute, EPRI, has commended for investigation. There's no economic reason, and there's no engineering reason, why we could not be exporting clean and conventional energy to the Americans supported by these co-located corridors, which would double—this is important—our overall energy exports, including electricity and hydrocarbon, and cut in half U.S. greenhouse gas emissions from coal plants. It would be pretty hard to oppose this on environmental grounds or economic grounds.

We also happen to have companies with prowess in power lines and pipelines, from Enbridge and TransCanada to Brookfield, as well as large investors with an appetite for big infrastructure plays, from CPPIB, to OMERS, to BCIMC and La Caisse.

● (1605)

A wise Canadian energy strategy is one place where oil, water, and wind mix quite well. Instead, we put most of our eggs in the basket of natural gas-fired oil sands. The world has changed a lot since we made that bet. Thousands of people are circling the White House protesting against us, and indigenous groups are digging in their heels delaying pipelines. The U.S. has found out that it may not need as much of our oil as they thought, with massive discoveries aided by the new tight oil technology. In fact, by 2020, the International Energy Agency estimates that the U.S. will be a net oil exporter. Make no mistake, there is still a lot of prosperity to squeeze from the oil sands and our American customers, but it's not going to be as easy, or as prosperous, or as juicy as we thought.

Staring us in the face at this moment is a major economic opportunity to double energy exports by joining up at the hip our clean and conventional export strategy. What is stopping us from building these energy corridors and co-locating pipelines and power lines? One part is that we don't currently have a national answer to the engineering question—not the political question, the engineering question—of how much clean electricity we actually have in this country.

Assuming an optimally designed electricity grid, what would our electricity export potential to the U.S. be on a province-by-province basis? A public clean energy superpower map undertaken by the National Energy Board, delineating Canada's wind, solar, tidal, pump storage—crucially pump storage—and geothermal potential, would help delineate where to plan national interest electricity grid corridors and would be catalytic for the private sector to enter into this fray.

We also have to overcome the idea of electricity exports being some kind of zero-sum game between provinces. It's not. If we recognize the magnitude of the opportunity that exists, we will reframe the nature of the barriers. The convening power and leadership of the federal government could go a long way to helping Canadian provinces see how little our current slice of the U.S. electricity market is and the potential for an electricity export pie that is ten times bigger—ten times bigger—than today.

Instead of fighting over crumbs, a pan-Canadian, east-west, north-south grid co-located with pipeline energy corridors with multiple north-south shoots is a means to enhancing access to U.S. electricity markets, not a limiting factor.

The 21st-century energy corridors will require transcending historical cleavages and reframing the notion of an east-west grid in the context of a pan-Canadian enabler to supply the vast U.S. electricity market. The convening power and leadership from the federal government will be essential in this regard.

Other issues include an abundance of red tape and the high cost of capital. Both of these issues have held up the expansion of power lines. However, the lemonade from the lemon of recent changes to federal environmental regulations is that there is now much less red tape standing in the way of building major infrastructure projects. But there's still much to do. I would recommend that the committee take note of the German electricity network development plan, the U.S. Energy Policy Act of 2005, which has a provision to invoke national interest electric transmission corridors, and the Canadian Electricity Association's recommendations to plug the infrastructure gap by removing interjurisdictional trade barriers to electricity, removing regulatory impediments to much-needed electric infrastructure investments, and enhancing the efficiency of permitting procedures for international power line projects.

This should be a major focus of our foreign policy. On the capital side, the current Prime Minister has made a substantial contribution already by providing loan guarantees to Newfoundland's government to support the construction of a $6.2 billion lower Churchill hydroelectric project and underwater power cable to Nova Scotia, which is a gateway to U.S markets. This loan guarantee will save Newfoundland $1 billion in borrowing cost. The Prime Minister said that similar financial support will be considered for projects that meet three criteria: be of national or regional importance, have economic and financial merit, and significantly reduce greenhouse gas emissions.

A fourth criterion I would like to suggest could be to link these guarantees to the availability and to the implementation of national interest electricity corridors. This would be a tempting carrot to bring provinces on side. As well, repeating this pledge with explicit comment that the federal loan guarantee would also be open to private sector transmission projects would help galvanize private sector interest.

A map to inspire transmission runway, cleared of red tape, and a little credit enhancement would help us marry up clear and conventional energy and deliver the prize of economic prosperity for generations to come.

Thank you kindly.

● (1610)

The Chair: Thank you, Mr. Heaps, from Corporate Knights Inc.

We continue the seven-minute round of questioning with Mr. Julian.

Go ahead, please.

Mr. Peter Julian (Burnaby—New Westminster, NDP): Thank you very much, Mr. Chair.

Welcome, Mr. Heaps, Mr. Smillie, and Mr. Burt.

Picking up where Mr. Heaps left off, I know that each of your organizations has a keen interest in green energy sources. Building trades in my province talk often about that international potential of a $1 trillion market now that is going to a $3 trillion market over the next decade. I note with interest that the Conference Board of Canada, back in 2008, talked about instruments to reduce greenhouse gas emissions—just reading quickly from the abstract:

> Green taxes and green investment tax credits are needed if Canadian firms are to accelerate their technological adaptation to a carbon-priced world. As a complement to green taxes, a cap and trade system should be implemented, combining regulation with market forces via emissions trading.

All three organizations have a keen interest in green energy.

I want to go back to you, Mr. Burt, and to you, Mr. Smillie. Could you talk about the potential around green energy, renewable energy, and a bit about a national energy strategy that takes into consideration that key issue of sustainability?

The Chair: Go ahead, Mr. Smillie.

Mr. Christopher Smillie: In terms of competencies required to build those projects, the green energy market, so to speak, is exactly the same as traditional energy markets. You still need carpenters, millwrights, and steamfitters, so it's a nice addition to conventional energy employment.

Obviously, when you're building an LNG facility or an upgrader or a refinery, the number of person hours required to build that facility outstrips putting together a few windmills on a wind farm, but granted, those windmills and those wind farms are growing.

We've had mixed experiences with some installations of green projects. Lots of times the big companies from the U.S. come to install the windmills and they want to use their own crews, so even in B.C. we've had difficulties on wind farms when crews come in from other places and Canadians are standing at the gate asking what's happening. For instance, under the Ontario Green Energy Act, some of the solar farms were installed under NAFTA provisions and some of the electricians in Sarnia were left at the gate.

So I agree with you that green energy is an addition to the current work scope, but the person hours required on a conventional energy project are in the millions more than putting up a wind farm or a solar farm. The manufacture of the solar panels itself often doesn't occur in Canada. It occurs offshore, and sometimes the electricians feel they are reduced to being installers of solar panels.

It's a good start. You talked about renewable. I'll include hydro in that. If we're going to build new dams, absolutely, tons and tons of person hours are involved in building new dams. Lots of jobs are involved, absolutely, in building the transmission lines from those dams to market.

We're still waiting to see on some of the other green jobs. The important part is that we have some sort of coordination so we know when projects are occurring where, so we can send the workforce. If we're going to have a large solar installation, say in Kelowna, we need to make sure the workforce isn't doing one in Sarnia or somewhere in New Brunswick.

I sound like a broken record, but an energy plan has to be linked to a labour plan.

I'm sorry, I might be getting off track.

● (1615)

Mr. Peter Julian: No, that was going to be my next question. The whole issue of apprenticeship training is a big one.

We're facing a lot of abuses in the current temporary foreign workers program, whereby hundreds of thousands of temporary foreign workers are brought in, they are paid less, and they're subject to a whole range of abuses that we know about. I've talked to folks in the building trades who are very concerned about how the government has implemented this program.

You have raised apprenticeship and job training. Is that a concern? Are the current structure and the abuses taking place in the temporary foreign workers program a concern to the national building trades? They certainly are to the building trades in B.C.

Mr. Christopher Smillie: The national building trades have been focusing on using the program to bring the labour force in from the United States. We have a policy where it's local workers first, then provincial, then national, and then our next step is the United States. We've been working on workers in Michigan with the same skills, the same language, the same health and safety training, getting them to Alberta, to where the work is.

In terms of the trades we represent nationally, I think in 2011—I'm still waiting for StatsCan to give me 2012 numbers—only 5,200 or 5,400 TFWs came in under the trades we represent. The first source country is the U.S.

So to answer your question directly, obviously we represent workers, so we're going to do what's best for workers. There's no difference on our site between a temporary foreign worker and a Canadian. At the end of the day, the treatment they receive is exactly the same under the collective bargaining agreement on our sites—

Mr. Peter Julian: I'm sorry, I want to get Mr. Burt in, because my time is growing long.

Mr. Burt, on the whole issue of green energy, the Conference Board has taken a strong stand on putting in place a cap and trade system. That's certainly where the Canadian public is. It certainly isn't where the government is, but that's another story.

How do you feel the government needs to move ahead? Since Canada is lagging behind the rest of the industrialized world in green energy, both in market diversification and product diversification, what are some of the suggestions you can offer us?

● (1620)

Mr. Michael Burt: First of all, usually you're talking about electricity-generating capacity when you're talking about green energy. If you look at the expectations for the types of capacity that will be installed in Canada going forward, wind and hydro are the two biggest sources of capacity addition. So I do think we are—at least it appears that we're moving forward on it.

Our position is that if you want to promote green energy, we need to put it on the same playing field as traditional carbon-based energy. That means you need to account for the cost associated with carbon emissions. Right now, it's an externality. It's free to emit. So if you want to use a market-based approach to try to push companies towards reducing their emissions, making more use of green energy, you put a price on the commodity, the greenhouse gases that you don't want them to be emitting. As you pointed out, part of that is that obviously you can't necessarily slap a big tax on businesses. You have to help them with transition strategies to get them from where they are now to where we need them to be. There's a lot money invested already in the existing capital stock, and you don't want to just necessarily throw that away.

If you're talking about developing green energy as an export, rather than just changing our internal mix, then you have to start asking questions about where we are going to sell it. We do have a domestic market. We're already quite hydro-intensive. More than, roughly, two-thirds of our electricity comes from hydro, so there are limits to how much more we can grow that portion of our energy mix domestically. If you want to export it, as Mr. Heaps mentioned, we could potentially displace coal-fired generating capacity in the United States, but there are obviously parties that have a stated position already about that. You're talking about displacing existing market participants, because demand growth is fairly flat going forward.

If we're going to get there, we need to level the playing field, I would say. If you're talking about export markets, well, then we need to get our partners in line with our current policies.

The Chair: Thank you.

Thank you, Mr. Julian.

We'll go now to Mr. Garneau for up to seven minutes. Go ahead, please.

Mr. Marc Garneau (Westmount—Ville-Marie, Lib.): Thank you, Mr. Chair.

And thank you all for being here.

If there's one overarching message that I'm hearing from everybody, it's that if we're going to diversify our energy markets, we need two things: we need more infrastructure, and we need labour in some cases. Related to infrastructure is also getting a green light, because sometimes some of these infrastructure projects carry some very demanding requirements with them.

I only have seven minutes, so I'm going to ask specific questions to specific people. I'll start with Mr. Green.

Obviously, tidewater has been mentioned several times. If we're to get to Asian markets—and I'm focusing on hydrocarbons—then the shortest path is through British Columbia. We're hearing an awful lot about what's going on there. If Northern Gateway does not go forward in the end—and I'm being hypothetical here—in your opinion, is there a route to the west coast that would be acceptable to everybody? I'm asking you for your candid opinion. I'm talking about environmentalists, the province, and aboriginal people. Is there a solution there, or is it something that's going to be problematic forever?

The Chair: Go ahead, Mr. Green.

Dr. Kenneth Green: Thank you.

Well, again, here's the pessimistic side of me: I don't believe there's any pathway from western Canada's oil resources to the Pacific coast that will be acceptable to environmentalists at all. We have four to five major environmental groups on record as saying that they believe the exploitation of the oil sands is literally the end of the planet, the end of the climate as we know it, and the only position they will accept is that it stays in the ground.

So for that constituency, no pipeline in any direction will be an acceptable one if it carries the oil sands from Alberta or from western Canada to new markets.

Mr. Marc Garneau: Thank you very much. That was very concise.

To Mr. Burt now, the natural resources minister is in the United States at the moment, doing a number of activities. He spoke a few days ago about the desire to encourage foreign investment in Canada. He was talking about natural resources, not just hydrocarbon developments. He in fact talked about hundreds of billions of dollars that were required in terms of foreign investment in Canada to allow us to go forward with many of the projects that we could potentially go forward with in this country.

Nobody has talked about capital as being one of the issues involved in diversifying our energy markets. How big a factor is access to capital in this country?

● (1625)

Mr. Michael Burt: There's no doubt that all of these activities we're talking about are highly capital-intensive. You're talking about billions of dollars of investment even for an individual project, so you have to have access to it.

Up until now, there hasn't been a shortage of capital in the sense that we have adequate domestic sources and we've been open to foreign investment. Between those two sources, the money's been there. Basically, if you're able to make a return on a project, then businesses have been able to raise the capital to do it.

If we were to be a little more aggressive with limiting foreign investment, we would still have the domestic capital resources, but I would argue it's not necessarily a good thing. We're talking about diversification of our energy. Well, now all of our capital resources would be devoted to one or a few industries. It's better to diversify what we're investing in just to reduce risk.

This is true for anybody, whether you're an individual investor or pension funds or whatever. You don't want to be focused just on investing in energy. You want to have a plethora of potential investment opportunities open to you.

Mr. Marc Garneau: Thank you.

Mr. Heaps, I was interested in what you had to say. Unless I missed something, it was focused almost entirely on North America and the United States specifically in terms of export market.

Was that deliberate, or do you have views on exporting to Asian markets or other markets?

Mr. Toby Heaps: It was deliberate in the context of the biggest potential for us on the electricity side, but I have views on diversifying our exports to other markets as well.

Mr. Marc Garneau: Can I hear about it briefly?

Mr. Toby Heaps: Sure.

I don't think too many would argue that it's a good idea to have your umbilical cord tied to just one customer, and currently the vast majority of our oil exports go to just one customer. That's a limiting factor.

Even if the oil exports that we do through the west coast are likely going to be shipped down to the west coast of the U.S. to be refined, where they've made substantial investments in heavy oil refineries and are counting on that oil coming there to refine, it would still give us the bargaining power to potentially have other buyers.

I just came back from Calgary—I did the oil sands tour a couple of weeks ago—and right now everyone there is talking about the 2015 bottleneck, about how if pipelines don't get approved, there's a major bottleneck for the Cenovuses and the Suncors. There are various ways to get the oil out, such as by train, but it's not as economic. On every barrel of oil they sell today, they're taking a $40 haircut.

So if we're going to proceed with the oil sands, I think we should try to optimize the wealth that we can squeeze out of them in a way that can diversify our energy future, similar to what Newfoundland and Labrador has done. I think they're actually a model for the rest of Canada.

If you look at what they've done, they've taken this sort of economist approach and said, “We have an asset—the offshore oil—that won't be around for more than a couple of decades. We're going to squeeze money out of this right now, and we're going to invest it in an asset that will be around for a few centuries: our hydroelectric potential and our wind.”

So they're taking the billions of dollars they're earning from the offshore oil and investing it in reproducible capital that will earn them billions of dollars, for the next couple of centuries, producing and generating clean electricity.

I think there's a lot to be learned there. To have that money to invest, in increasing the forms of capital to offset the finite capital that we're reducing, I think it's important to have the expanded market access so we're not held hostage by a single customer.

Mr. Marc Garneau: Do I have any time left?

The Chair: No, but you can ask an extremely short question.

Mr. Marc Garneau: Okay.

Mr. Smillie, what are your views on the temporary foreign workers program?

Mr. Christopher Smillie: In our universe, in construction, there are pretty small numbers in the construction workforce right now. I wouldn't want to speak for the service sector or any of the other sectors, but the program is a band-aid solution for not getting the training right in Canada. We need 3,000 or 4,500 electricians yesterday. It's a scramble. What do we do? We have major projects and we have a scarcity of the right people at the right time at the right job site. So it's a band-aid stopping the flood in demographics that's about to happen.

● (1630)

The Chair: Thank you, Mr. Garneau.

We go now to Mr. Calkins, followed by Ms. Crockatt, and then Mr. Atamanenko.

Mr. Blaine Calkins (Wetaskiwin, CPC): Thank you, Mr. Chair.

As an Alberta member of Parliament, I would like to talk a little about the price differential. In my province right now, the opportunities for the hydrocarbons to move beyond Alberta's borders across Canada to the east, the south, and the west coast have been talked about quite a bit. All these options are being looked at. Hypothetical options are being looked at to go north to circumvent, and these hypothetical questions are being posed in light of the political environment, which is really the only environment that can stop some of these things from going forward. These are some of the issues I have.

I want to talk a little about the actual benefits of the diversification of the marketplace and what that will mean for the economics of our country, notwithstanding perhaps combining strategies, as Mr. Heaps said. But what does it mean in government revenues?

Mr. Burt, Mr. Green, I would look specifically to you for that.

Then I'll come back to Mr. Smillie and Mr. Heaps with a question afterwards.

The Chair: Go ahead, please, Mr. Burt.

Mr. Michael Burt: I can't put a precise figure on it. I don't have an exact number in terms of royalties. Different numbers are bandied about. But in terms of oil, which is the commodity that most people talk about right now, depending on when you're talking about it, it's in the range of a $30 or $40 discount right now per barrel, compared to global benchmarks. When you think about it, we're pumping roughly three million barrels a day, and when you start adding that up, a lot of money in profits is being lost by the industry. You can apply royalty rates to that and you're still talking billions of dollars—billions.

There's also the lost investment activity, as I said in my presentation. Drilling activity in natural gas has petered out right now, because you can't make money. Conventional natural gas is not economic right now in Alberta.

Mr. Blaine Calkins: That's because we have a glut right now, and we can't access other markets other than the North American continental marketplace.

Mr. Michael Burt: That's right.

Mr. Blaine Calkins: Okay, thank you.

Mr. Green, do you have any thoughts on that?

Dr. Kenneth Green: As I mentioned in my comments, currently oil and gas producers are contributing between $17 billion and $20 billion to provincial and territorial governments in lease payments and royalties and licences. If we increase the output, as we discussed, or as is expected, doubling oil sands and so forth, you have to assume that this is going to increase sharply. In our paper, we quoted the possibility that just the oil sands growth could contribute $50 billion per year in royalties by 2033, compared with the $4.5 billion they contributed in 2011. So an extra $45 billion over the next 20 years in revenues from the oil sands specifically is a real possibility. Again, that would be influenced, as the previous speaker said, by whether or not we're selling the oil at a discount. Clearly, if we were getting the full world market price for the oil, those benefits would be even higher in terms of what Canada would realize in private profits and revenues to the government.

Mr. Blaine Calkins: Do you have any advice for the committee in accessing the world market from the east coast or the west coast? I would like to think it's an option, a scenario, coming forward, but if we had an either/or scenario, which would be better for the Canadian economy?

The Chair: Go ahead, Mr. Green.

Dr. Kenneth Green: If we had to pick one, if we had an either/or situation, it strikes me that the growth in the future over the next several decades is expected to be overwhelmingly in Asia, and therefore a Pacific export pathway would be preferable to an eastern one. As you said, with the amount of oil in Alberta and western Canada, the idea that eastern Canada is importing oil rather than having a pipeline being run to it strikes me as a bit absurd. I think a “both directions” approach would be better for Canada as a whole.

● (1635)

The Chair: Thank you.

Mr. Burt.

Mr. Michael Burt: I would have to agree. The western approach is shorter and cheaper if your purpose is just to get to foreign markets, but given the amount of oil we're importing and the price differential between domestic prices and foreign prices—because we are importing oil at foreign prices—there would be significant benefits to having the refineries in eastern Canada using domestic oil rather than foreign oil. We could do both, as I said in my presentation.

Again, you're talking about an increase of roughly three million barrels a day in production coming out of the oil sands over the next 20 years or so. The eastern and central Canadian importing needs right now are only about 700,000 barrels a day, so we could easily meet domestic demand and still have lots left over for exports.

Mr. Blaine Calkins: We'd have lots left over for exports.

The Chair: Thank you, Mr. Calkins.

Ms. Crockatt, go ahead for up to five minutes, please.

Ms. Joan Crockatt (Calgary Centre, CPC): Thank you very much.

Thanks to you all for being here.

I want to just make a bit of a comment at the outset. You might want to be aware, Mr. Heaps, that there's a really significant technological advancement on the cusp in the next few days. The Kearl oil sands plant is going to open in Fort McMurray. It will have the same greenhouse gas emission level per barrel of oil as does a conventional refinery in the U.S. In fact, it will have a lower GHG emission level than that for heavy crude from California. That might be something to add to your thinking.

I want to turn to Dr. Green. You struck fear into some people's hearts when you said that the U.S. is going to overtake Saudi Arabia as the world's largest oil producer by 2020. Those of us from western Canada remember only too clearly the 20-some years that the Mackenzie Valley Pipeline was going to be the great saviour of the north and Alberta, and then suddenly we missed the market.

I wonder if you think we are in danger of missing the market, and with this resource that could bring $45 billion into the Canadian economy, into Canadians' pockets, we might miss that market right now because of tight oil in the U.S., etc.

Dr. Kenneth Green: It is a risk. I didn't mean to strike fear into people's hearts, but it is a risk because of the historically unprecedented transition we've seen in U.S. energy production. Normally speaking, you think of energy systems as evolving remarkably slowly. They take decades to unfold. Your planning horizons are very long. It was only seven years ago that the United States was trying to get approvals for importing liquid natural gas, because they believed they were going to be running out. Now, of course, they're trying to figure out how to get export approvals for natural gas, because there's a glut that has natural gas at unsustainably low prices.

If Canada stays tied to the United States by the aptly described umbilical to the southwest, there is a danger that certainly we'll miss the U.S. market; that is, we'll be caught unexpectedly by the declining U.S. consumption needs and not have time...or we'd have to ramp up very quickly our access to other markets. If somehow the access to other markets is stifled and progress continues in the United States the way it has on oil and gas production, then I think there is a serious threat of Canada missing the boat and not realizing the profit potential of western Canadian energy resources.

Ms. Joan Crockatt: In that vein, I'd just like to talk about social benefits. You said that you think Canadians are going to be smart enough to realize the value of the energy resources and what those mean to their lives. I'm wondering if they will realize that in time to be able to save that market. What are they? What do you know that you can tell consumers that you think will actually have them realize that we're on a precipice here and that we need to take action?

Dr. Kenneth Green: That's a challenging question.

I could go on at length, and I have—I give student seminars in which I do go on at length explaining to people the unbelievable myriad ways that access to affordable and abundant energy benefits them, whether it's their cellphone and their ability to call the paramedics when their grandmother is feeling ill, or the refrigeration that keeps their insulin ready for them to use, or the energy that allows them to clean their clothes and keep the burden of disease down in their houses, that allows us the medical treatments we need, which are highly energy intensive.

Unfortunately, the narrative in Canada is still several years behind the times in some ways, particularly the one about green energy. Actually, if you look at the world leaders who have tried green energy in Europe, they're now backpedalling furiously, having found that they bought themselves into unbelievably expensive, unsustainable forms of wind and solar power generation that generate power when it's not needed, that are unreliable, and that have to have backup power, which is 100% duplicative.

We just did a study at the Fraser Institute of the GEA in Ontario, showing the same thing. Under the GEA, power prices in Ontario have shot up tremendously. They're expected to go up another 40%, 50%, or 60% in the next couple of years. That's going to slam manufacturing and mining very hard, in terms of attracting investment, because they'll be less and less competitive with other jurisdictions.

So there is a need to update the narratives here in Canada on green energy, and on greenhouse gas emissions as well, and on the centrality of energy to our lives. Will people get it in time? That really depends on whether enough voices can counter the narratives that are misleading them into thinking that we can replace our hydrocarbons with wind and solar power. Really, hydrocarbons are mostly used for moving things—they're transport fuels—whereas wind, solar, and hydro generate electricity.

I think there's a long way to go before the public is going to understand this, but when they get the bills in Ontario, they'll start to understand.

● (1640)

The Chair: Thank you, Ms. Crockatt. Your time is up.

We go now to Mr. Atamanenko for up to five minutes.

Mr. Alex Atamanenko (British Columbia Southern Interior, NDP): Thank you very much, Mr. Chair.

Thanks to all of you for being here.

I'm new to the committee, so I'm going to touch on a question that I've thought about a lot. I know in some of the questions we have here we ask to what extent can market diversification within Canada make up energy market diversification, because we always assume that diversification has to be with other countries. I know, for example, that east of Ottawa we import 90% of our oil for eastern Canada. That's a huge amount. I also know that as one of three countries that have signed on to NAFTA, we don't have any kind of coherent energy policy, whereas Mexico does and the Americans do, and we see what's happening.

Can we become self-sufficient? Can we create more jobs? Can we build more refineries, become a self-sufficient energy power, and not depend on regions that have the potential to be volatile, and to cover our own needs, meet the demands of the increased production as we move into greener sources of energy, and provide jobs and look within?

This is a question. I'm just wondering if you have any comments on this. We don't have much time, so maybe if we can get a brief comment, starting with Mr. Heaps and going all the way down the line, I would appreciate it. Thank you.

Mr. Toby Heaps: Sure.

From a hydrocarbon perspective, we do export quite a bit. Most of the 25% of our exports that are energy are hydrocarbon. We do import almost as much, about half of what we export in terms of dollar value.

A lot of people have said it doesn't make economic sense to build refineries in Canada because they're already built in other places, and there are a lot of capital costs to build them, a lot of permitting time, and no one wants a refinery in their backyard.

But I don't know if that assumption is rock solid, given the differential we have in oil prices between what we get for it here in Canada and the WTI price. Right now there's a $40 differential. I think the economics look a lot better if you do two things—what Mr. Garneau was talking about before on the capital cost. If you look at the difference between what we get for oil here and in the U.S. right now, it's $40. If you put that in the model, refineries here start to look a little more sensible. The biggest problems with refineries are capital costs and borrowing the money. If you're a private sector actor, you're going to have to pay a higher interest rate. But if you could get the loan back-stopped by the government, provincial or federal, that would lower your capital cost. It's a substantial amount. In the case of Newfoundland, they're saving $1 billion on $6.2 billion.

● (1645)

The Chair: Mr. Smillie, go ahead.

Mr. Christopher Smillie: If we see the Energy East pipeline built, which hopefully we do, probably most of the foreign oil stops coming in and we refine more and more from Alberta. I think that addresses a lot of the job issues. The people in New Brunswick will be happy because it means the refining industry there will expand. The Irvings will be happy. The people on the west coast will be happy, as will Alberta, because on the production side there will be increased demand.

You asked about a national policy. I think we've seen the component parts of a national policy rolled out. I don't think it has been called a national policy, but I think we're starting to see the component parts rolled out, that being a pipeline policy, a streamlined environmental policy, and an investment policy.

Can we become more self-sufficient in terms of power? I would say yes, but again we have to get the people thing right. I think we're net exporters of electricity right now, so we are self-sufficient in that sense.

The north is a huge issue. It will be the game changer. When we start having to build refineries or extraction facilities in the north, the way industry works will change completely. We're going to have to move labour forces to those places to work. We're going to have to come up with some sort of near north strategy, I would call it.

The Chair: Mr. Burt.

Mr. Michael Burt: I would say yes, we can be self-sufficient. As we've already mentioned, if you build that west to east infrastructure, we can be self-sufficient in oil. There's no question of that. It's just having adequate infrastructure.

When you talk about things like refining, this is all wrapped up in the idea of getting more value from our natural resources, and of course we're all for that. However, when we focus on refining, it's a limited picture.

We did a supply chain piece, looking at the effect on the supply chain of the oil sands industry. It's important to keep in mind that there are a lot of inputs that go into this industry as well, everything from engineering to financial services, to different types of machinery. There are huge supply chain effects. We can also get more value from our natural resources through the supply chains.

One of the biggest success stories in Canadian manufacturing in the last decade has been manufacturing of mining and oil and gas machinery. It is one of the few manufacturing industries that has seen big increases in exports in the last decade.

How can we take the expertise for developing as a result of our oil sands and other energy assets and turn that into new export opportunities?

The Chair: Thank you, Mr. Atamanenko.

We go now to Mr. Trost for up to five minutes.

Mr. Brad Trost (Saskatoon—Humboldt, CPC): Thank you, Mr. Chair.

I have a bit of a broad question, so hopefully someone will be able to answer it in its entirety, but each of you, I think, may be able to take a little part of it. It's about timeliness.

We've heard from other witnesses going forward, and to varying degrees here today, about how things like our liquid natural gas, the potential for exports, may depend on who gets to market first, because there are a large number of projects out there. It's the same with oil. How soon we can get more into the United States depends on the political situation, and as they develop tight shale, etc., that could change things. I see basically three main categories to put these products together: capital, regulatory/political issues, and labour.

If we want to get projects done, be they for LNG, oil, or transmission and electrical lines, where do each of you see the greatest potential to slow down our projects to block our timelines? In your particular area of expertise, what would be the problems in each of those areas?

I'll start with Mr. Smillie, since I think you would deal most with the labour issue, and then go to the various other gentlemen, potentially, on regulatory and capital issues. But feel free to comment on all three of those.

Mr. Christopher Smillie: Thanks.

Ask anyone in Calgary their number one business risk. It's not capital; it's not regulation. It's getting the right people to the right job at the right time. How do we fix it? We need colleges in all of the provinces to start working together to get the training picture right. If you're a mobile worker from New Brunswick, working in Alberta, you shouldn't have to quit your job to go home to New Brunswick to take your classroom portion. You should be able to take your classroom portion where you work, and I think we talked about this with Mr. Allen last time—it's all coming back to me. That should be the easiest thing in the world to work out.

We should have a system of labour mobility in this country, where if there is regional unemployment in various areas.... Let's incent those people to get on the plane and get to where the work is. The impact on the consolidated revenue fund, getting people off employment insurance and onto the employment rolls, would be immense. How do you do that? If the employer's not paying for them to get on the plane, you give them a tax break to get on the plane or a tax credit based on their travel expenses. If it's someone in Ontario who's unemployed in Windsor, give him a per diem expense to drive to the Bruce nuclear plant, where they're scrambling for skilled trades.

It's colleges and universities, it's labour mobility, and it's the promotion of quality careers in the skilled trades. The other panellists can talk, but if the most common age in my membership is 52, we're in trouble in 10 years. What about the projects that are set to go in 16 years? How old are those 52-year-olds then?

● (1650)

Mr. Brad Trost: Mr. Green, would you care to comment on capital or regulatory or labour?

Dr. Kenneth Green: I could speak to the regulatory portion to a certain extent. The Fraser Institute does several annual surveys—one on mining and one on upstream oil and gas production—of executives with companies that engage in that kind of production. One of the things we've learned from the year-to-year surveys is that good regulatory environments, that is, transparent regulatory environments that are non-duplicative and non-burdensome, are a huge factor is making a jurisdiction attractive to investment.

Your capital and regulation parts go hand in hand. With the right regulatory regime you can make a jurisdiction attractive to investment; with the wrong regulatory regime you can discourage companies from investing and they will send their funds elsewhere. You have to get the regulatory part right to attract the capital that will build the projects and hire the labour.

Mr. Brad Trost: Could regulatory or political issues affect the timeliness of projects or determine whether or not they go ahead? Could we lose projects on regulatory or political issues because we would be the second or third compared with some of our competitors?

Dr. Kenneth Green: Absolutely. We've already seen very long regulatory delays. Look at Keystone XL. We're missing opportunities every day.

The Chair: Thank you, Mr. Trost.

We'll now hear from Monsieur Dusseault, followed by Mr. Allen.

[*Translation*]

Mr. Pierre-Luc Dusseault (Sherbrooke, NDP): Thank you, Mr. Chair.

I would like to thank the witnesses for being here today to meet with us.

My question is quite specific and is for Mr. Heaps and Mr. Burt, if they wish to answer it.

I would like your comments on the problems that may arise with an economy that relies on a single sector or a few sectors in particular. What do you think the risk might be if we encounter problems in that sector or if the markets and demand change?

Let's take oil for example. We know that other markets like the United States produce more. What would be the risk of having an economy that basically relies on a single energy sector or a few sectors?

Mr. Heaps?

[*English*]

Mr. Toby Heaps: Sure. The first one isn't the most conventional type of risk most people would think of, but it's the risk that it's easier to get pigeonholed, and we as a country have been pigeonholed in the U.S.—I would argue somewhat unfairly—as a dirty energy purveyor, and we could be much more than that.

As Ms. Crockatt commented, we do have some clean oil sands operations, cleaner than conventional, but they're not zero carbon or even close to approaching zero carbon. We could get quite close to zero carbon if we were to take the ATCO Group's plan and use the abundant thousands of megawatts of hydro power in northern Alberta to steam out the oil—use that electricity to steam out the oil. If we did that, it would be pretty hard for U.S. environmentalists and Robert Redford to oppose the import of Canadian oil that was zero carbon.

For the other one, I'd like to use the metaphor of a horse. I think we've taken a bit of a one-trick-pony approach on our energy strategy, and it has been a lot about exporting our oil, particularly our oil sands oil. When the world changes and our biggest customer finds that they have more oil than they thought they had, and we can't build our pipelines because the environmental community is a much more powerful force than we thought they were at preventing those pipelines, we wake up feeling a little like the person in *The Godfather* when he unfortunately found his favourite horse's head in bed with him. It's not a pretty picture for our economy.

It never pays to put all your eggs in one basket. Not only does it make it harder for us to export our oil, by not having green energy being produced in Alberta that's abundant and economic in the hydro form, but it also makes us quite vulnerable when we put all our eggs in that hydrocarbon basket.

So for both reasons, for the sake of the oil industry and for the sake of economic green energy generation, it makes a lot more sense to diversify into both clean and conventional energy.

● (1655)

[*Translation*]

Mr. Pierre-Luc Dusseault: Mr. Burt, do you have any comments to make on that?

[*English*]

Mr. Michael Burt: Obviously diversification is a good thing. You don't want to put all your eggs in one basket, to use your expression.

What we've seen is that although the Canadian economy is not just about energy or about oil sands, a lot of the growth right now is being driven by our natural resources, and energy in particular. How do you deal with that? Obviously our businesses are taking advantage of the opportunity that's available to them.

One of the ways that is commonly used around the world when you have one-sector economies is to establish legacy funds of one sort or another. Rather than spending the royalties and tax revenues we're generating from this finite resource, build a legacy fund that allows us to share the wealth of that resource over time. When you do have a bust cycle, which we all know will occur at some point, you can smooth out those up and down fluctuations in the economy.

[*Translation*]

Mr. Pierre-Luc Dusseault: Thank you, Mr. Burt.

Mr. Heaps, I would like to continue with the follow-up to my question.

What role do you see the government playing in this diversification? You spoke at length about oil in Alberta and the use of hydro to change the extraction method a little so that it is more ecological.

With respect to this diversification, what role do you think the government should play to ensure that our economy does not rely on just one resource and that it can grow despite the whims of world markets and the economy?

[*English*]

Mr. Toby Heaps: I would say two things, and they both have a lot to do with accounting—if we're just going to limit it to two things.

One is we don't currently include our commercial natural resource wealth on the balance sheet of our nation. Australia does. They do include their oil and their coal and their natural gas on the balance sheet of their nation. So when it goes down, or when they're making new discoveries, there's a change to the balance sheet and they know their wealth-producing potential is changing. It has an effect on their policy and an effect on giving an incentive to have things like sovereign wealth funds, because you can see you're depleting a form of capital on your balance sheet. You want to increase a form of capital.

But the other thing is—and I'd like to re-emphasize this—it is so important to have the knowledge in this country about what our economic clean electricity potential generation is. We do have over 160,000 megawatts of hydropower potential that is not tapped. That's twice what we have tapped.

We do have millions of megawatts of economic wind that is fast-blowing but far away from power lines. The thing that equalizes the wind, that people don't understand.... Sometimes folks like to criticize green energy, but Canada has a unique geography, especially in the Niagara region, with the 99-metre difference between Lake Erie and Lake Ontario, where we could do large-capacity pump storage. It could be the world's biggest battery that could store wind energy by pumping water uphill when the wind is blowing, and then we could have it come down. We're talking about 1,300 gigawatts. It's a massive amount. It could be part of a backbone of a North American super grid that would allow us to export our energy quite profitably, especially during peak times.

By providing this clarity on a map, the National Energy Board could show all of Canada, with the best energy economists and energy estimates, what our clean energy generation potential is if we had the proper grid in place, just from the engineering perspective. If we had the answer, if we could see the magnitude of the opportunity, it would start to focus a lot of minds, both in the private sector and in the public sector. It's a multi-trillion-dollar opportunity for us this century.

The Chair: Thank you.

Mr. Allen, you have up to five minutes.

Mr. Mike Allen (Tobique—Mactaquac, CPC): Thank you, Chair, and thank you to our witnesses for being here.

Mr. Smillie, I want to focus on the labour part of this. And you're right, it is a little of a continuation from the last time you were here.

I have a couple of questions. I want to ask a clarification question first. You talked about inefficiencies in the training systems. In your response to Mr. Trost you said colleges are starting to work together —agreed—you talked about labour mobility, and the other one was getting a recognition so that young folks don't have to come back to their originating province to get trained for six weeks, or whatever it happens to be. I talked to someone last week who was training in New Brunswick for six weeks. Are those some of the inefficiencies you're talking about, or would you like to mention others?

● (1700)

Mr. Christopher Smillie: There's the inefficiency of training centres not talking to each other. There are inefficiencies in the Red Seal system itself. We have a Red Seal system in construction and in other trades that recognizes credentials from each of the provinces.

We spend a lot of time applying and a lot of time trying to get more trades recognized in the Red Seal. We've been working hard with HRSDC to get more trades recognized, so there would be an efficiency in certification recognition across the provinces. We need to get that right. We need to get the skilled trades promotion thing right. HRSDC and the Red Seal could convene that with the provinces.

We have 13 different training systems across Canada. That's inefficient. If there is training capacity in one province because there's a slowdown or there isn't a lot of economic activity, let's use the available resources in that province.

The key thing with construction workers is that to be in an apprenticeship you need a job. There are inefficiencies in getting young people linked to companies that are offering apprenticeships. Everyone's on their own in the marketplace. We find jobs for our members. But the vast majority of young people don't even know we exist. So there are inefficiencies in information delivery to young people about careers in our trades as well.

I have a new daughter and I want her to be a millwright, so I can retire.

Voices: Oh, oh!

A voice: Right on.

A voice: Good for you.

Mr. Christopher Smillie: I will not allow her to take something that isn't linked to where our economy is headed. She's going to have her own choices, I'm sure. But I want her to be a millwright. Not a lot of people have that—

Mr. Mike Allen: As long as it's her choice, yes.

Mr. Christopher Smillie: As long as it's her choice, I'm fine with it. I'm learning how to be a father quickly.

There are inefficiencies in getting young people into the trades, realizing there's value. We've got to get that right. We can do that as a country.

Mr. Mike Allen: You led me into the next question. I recently met with the president of New Brunswick Community College and with one of your members who runs the trades in New Brunswick. One of the things we talked about was the young folks going into this, and that they may be under a false perception that they're going to be able to get this trade and get a job locally. But the construction business does not work like that.

So now here we are. As you said, we're going to be negotiating new labour market development agreements with the provinces next year. What are the key success factors in those negotiations that we should accomplish to achieve some of the objectives you just talked about, so we can fix some of this?

Mr. Christopher Smillie: LMDA funding—for the other members of the committee who don't know—is the part 2 training money from Employment Insurance. You have to be eligible for employment insurance to be able to access LMDA funding or receive employment insurance. We need to spend less on administering these funds and more on putting money in.

There's no one from the Government of Ontario here, so I'll stick my neck out. Of the LMDA funding the Ontario government receives, close to 50% of that money is spent on administration of the fund. It's not spent on training young people. I like Second Career; I like the Ontario government's idea. They spent a quarter-billion on advertising and administration. That's a lot of money. We need to make sure that when these LMDA deals are being negotiated there's value for money.

At the end of the day, if we want to upscale people who are on employment insurance, we better be training them for jobs that exist. We don't want to be training them to be unemployed. It's pretty simple. We need to train people for what the labour market is demanding in that region.

Mr. Mike Allen: Can you say the same thing for post-secondary transfers and all that? Should we be looking at negotiating those metrics as part of that?

● (1705)

Mr. Christopher Smillie: There's no one from Algonquin College in the room, so I'll make an example of them.

They have 18,000 students at Algonquin down the road, and 150 of them are in the construction pre-apprentice program.

So what are we focusing on? Ontario will have the Ring of Fire, Ontario will have a new nuclear build, Ontario will have pipelines running through it, and Algonquin College, I think the fourth-largest community college in Ontario, has 150 students involved in the skilled trades. Their number one programs? Police foundations and pre-science.

No offence to cops, no offence to pre-science students, but are we training people in a way that makes sense for the economy that's coming?

Mr. Mike Allen: Thank you.

The Chair: Thank you, Mr. Allen.

Monsieur Choquette, you have up to five minutes, followed by Mr. Anderson.

[*Translation*]

Mr. François Choquette (Drummond, NDP): Thank you very much, Mr. Chair.

I would like to thank the witnesses for being here today. We greatly appreciate it. I hope we will be able to make recommendations that will take into account the good things that have been mentioned.

I also want to quote the World Bank, an organization that spoke about climate change. It published a report entitled *Turn Down the Heat*, which reiterates the real urgency of taking action against climate change. The report indicates that, at the rate we are going, the earth is moving toward a climate that is 4°C warmer, which is much higher than the 2°C warmer that, if reached, would have alarming problems.

I know that some Conservatives think that climate change is no longer a concern. However, all the major organizations and scientists have clearly shown that the opposite is true.

I like the idea that the NDP is proposing a national energy strategy, among others, to diversify jobs. As Mr. Smilie explained, jobs in green energy are safer, since there is less variation in that kind of energy.

I don't have a lot of time, but I would like to ask Mr. Heaps what recommendations he would make. I am not a permanent member of this committee, but if the committee drafts a report, what concrete recommendations should be included with respect to market diversification in the energy sector and the fight against climate change?

I would like to hear three or four solid recommendations.

[*English*]

Mr. Toby Heaps: Thank you kindly for the question.

You raised the important question of climate change. And if we want to make a dent in climate change where we can on this continent, there's one place to do it and one place only: it's not the oil sands. The oil sands is 50 million tonnes; it's not that much. U.S. coal right now is 2 billion tonnes. That's 20 times more than the oil sands.

We have vast storehouses of hydro potential, wind potential, and pump storage potential, and it's going to remain potential unless we can get a plan together and a vision to have infrastructure in place that will get that energy to the big customer in the U.S.

The U.S. will figure out its own energy security if we don't get our game together. The U.S. has not figured out its own energy security answer to where they're going to meet the retirement of the hundreds of thousands of megawatts of coal-fired generators over the next 6 to 10 years, which the national electricity reliability corporation is projecting. The U.S. currently doesn't have an answer to where their electricity is going to be coming from to keep the lights on for millions and millions of people. We can step into that gap if we come up with a solid plan that's backed up by guarantees for the capital costs for the private sector and the public sector that would be laying down the infrastructure. It could be a P3.

The former chairman of SNC-Lavalin—I know they're not in vogue these days—Jacques Lamarre, put forward a proposal that he thought would make sense if you had provinces as 50% owners in a national type of grid for bulk electricity exports, with the private sector and citizens as part owners. It's a publicly held company. There is a lot of potential for that kind of a structure.

In terms of concrete recommendations, the first thing is that the National Energy Board make a map and show what our clean electricity generation potential is from an engineering perspective, and show what the export value is for each province of clean electricity to the United States and within Canada, interjurisdictionally.

Number two, give loan guarantees to large capital projects that will enhance our transmission infrastructure.

Number three, come up with a plan with the National Energy Board to investigate and show how the massive hundreds of thousands of kilometres of pipeline corridors could be co-located with superconductive transmission lines. EPRI has done a lot of work on this. Germany and China are looking at this; Canada is not. It's a big potential. If we could use those corridors, the biggest barrier to building the infrastructure to get the electricity to market is NIMBYism. People don't like the giant rights-of-way.

With the new technology that exists with the superconductive electricity grids, you can fit these power lines, literally, within old pipelines. You only need a 25-foot right-of-way. It holds massive potential to investigate for the National Energy Board—a game changer.

One last recommendation is the potential to make the biggest storage battery in the world, by taking advantage of the pump storage potential of the Niagara region, where there's a 99-metre difference between Lake Erie and Lake Ontario. It would have to happen with the Canadian government saying it's okay to change the water height in Lake Ontario by up to 29 centimetres. That's how much it would change. It already varies by up to 25 centimetres just through regular ebbs and flows. That's what would happen. But it would be a massive battery that could store all that wind blowing when people don't need it. And then you can sell it to the market when the market wants it and is hungry and will pay for it.

● (1710)

The Chair: Thank you.

Merci, Monsieur Choquette.

We go to Mr. Anderson. There are two five-minute slots, depending on whether we get bells at a quarter after or not.

Go ahead, please.

Mr. David Anderson (Cypress Hills—Grasslands, CPC): Thank you, Mr. Chair.

Mr. Smillie, you made a comment a little earlier about the need to incent people to travel to work. I'm just wondering if you could give us some suggestions as to how we might improve some of our programs, and I guess that includes EI, in order to create that.

We have an issue in my home province. I think the employment rate right now is 3.8%, and certainly we need workers. Do you have some suggestions as to how we can do that without looking like we're subsidizing particular industries?

Mr. Christopher Smillie: You don't need to subsidize a particular industry. One suggestion we've made to the Minister of Finance and HRSDC a number of times is that you can do it through employment insurance in terms of a travel grant. Instead of paying people for 26 weeks, or a number of weeks, you give them their money up front. Then they can get on a train, plane, or automobile and go to where the work is.

The other way to do it is like the home renovation tax credit. You go out and spend the money on a plane or train ticket to go where the work is, and then you get the money back on your taxes.

In fact, I believe one of the NDP members at the last committee hearing asked me to table the costing for that, and I did, so you should be able to have a look at that. The clerk got it mid-March.

It wouldn't be subsidizing industries, but I think at the end of the day, there are certain occupations in demand. You could choose based on economic demand in certain regions which occupations are most in need, and then apply those rules to those occupations. I don't think that would be subsidizing an industry. I think it would be addressing economic need in different regions.

To summarize, the grant through EI is like an upfront payment for travel, or a tax-credit-based system for travel. I think there's an NDP bill, actually, which goes over the tax credit issue. It's a non-partisan issue, but I think it's one that could be addressed fairly easily.

Mr. David Anderson: Okay.

Mr. Green, you made a comment towards the end of your presentation that intrigued me. You talked about the moral obligation to assist others out of energy poverty. I'm just wondering if you would care to elaborate on that a little bit more. We hear a lot of moral assertions around our energy development, but that is a bit different perspective.

I'm wondering if you have anything else you'd like to say, or put in, in terms of testimony about that issue.

Dr. Kenneth Green: There's a group derived from the U.S. Chamber of Commerce called the Institute for 21st Century Energy, which publishes an international index of energy security. They conclude that the more players that are in global trade in energy, particularly large players like Canada, the more stable those world markets are and of course the lower world prices are. The lower world prices are and the more stable they are, the more developing countries can have a shot at achieving development. Why is that important? It's not just for humanitarian reasons, but we also know that countries that are more prosperous are actually more inclined and able to take care of their environment.

So if you really care about environmental protection, what you need to foster in countries that are undergoing great environmental degradation, not to mention human health degradation, is greater wealth. Greater wealth comes through affordable energy, and they can use access to energy to bootstrap themselves up into producing economies.

To me, that is the moral dimension of this, which is that trade is generally good. Trade benefits both the seller and the buyer; the seller gets something they want more than the product they had to sell, and the buyer gets something they want more than the money they have to use to buy it. Everyone is made better off. That's true very much for energy as it is with any other trade good.

So if we want to be players in the world community through markets, it's a moral imperative that we participate.

● (1715)

Mr. David Anderson: Very interesting. That's a very different perspective than some of the other things we've heard.

This is to panellists generally here. We've talked a bit about timeframes. I think Mr. Heaps mentioned 2015 as a real barrier in terms of time for oil. I'm just wondering if there are any other specific time issues you gentlemen would like to talk to in terms of when we need to get into particular markets if we want to be competitive. Mr. Smillie may want to talk about some of the labour issues. We already talked about the intergenerational thing and the age of workers. I'm just wondering, are you interested in taking a couple of minutes to talk about any of those specific timeframe issues we might face in terms of market diversification?

Mr. Heaps, you look eager to go.

Mr. Toby Heaps: Yes, just a really short contribution.

According to the National Electric Reliability Corporation, between now and 2022—with most of it happening by 2017—71 gigawatts of fossil fuel power generation will be retired in the U.S. That's a ton of energy. and there's going to be a replacement form for it. Some of it will be natural gas—a good chunk of it will be—but a lot of it won't be.

If we step into the forge with the readily available energy and we can get permission to export our clean electricity under the renewable portfolio standards—which the majority of states have, but they currently do not include hydro imports under the renewable portfolio standard. If we could get that changed in the next few years, there's a huge opportunity for us to bridge that gap that will be left when the fossil fuel assets are retired. There's a whole raft of EPA regulations coming out around coal that's going to cause more to retire, so the 71 gigawatts by 2022 is viewed as a conservative estimate.

Mr. David Anderson: Is there anyone else?

Mr. Smillie.

Mr. Christopher Smillie: It takes us four or five years to cook a welder, the same amount of time it takes to cook a doctor or a dentist. Anyone we're training right now isn't a certified journey-person until plus-four years.

We really need to get it right now for the projects we're thinking about in 2017-18.

Mr. David Anderson: Any other gentlemen?

Dr. Kenneth Green: I will offer one quick comment.

As I spoke earlier, the projections for U.S. energy independence are for 2020 to 2035. If that leads to saturation of the U.S. refining markets, again, that will itself close a window for Canadian product imports to the United States.

If we wait long enough and allow the U.S. boom to displace the surplus capacity at refineries in the U.S., we could miss the window on moving the oil sands bitumen to the U.S. refineries entirely.

The Chair: Mr. Burt, if you would like, you can answer that as well.

The bells are ringing, so we don't have much time.

Did you want to take a minute or two?

Mr. Michael Burt: I don't really have much to add.

I agree very much on the pipeline deadline. We have a bit of capacity to extend it through rail movements, but there are limitations to what we can do with that. I would say that's really a critical deadline.

Mr. David Anderson: Yes, but what are the consequences? We heard a little bit from Mr. Green earlier, but—

Mr. Peter Julian: On a point of order, Mr. Chair.

The Chair: He's not going to ask it, Mr. Julian.

Thank you all very much for your presentations today, and for answering questions. It's been another very interesting meeting.

I want to thank Michael Burt, from the Conference Board of Canada; Christopher Smillie, from the Building and Construction Trades; Toby Heaps, from Corporate Knights Inc.; and Kenneth Green, from the Fraser Institute.

Thank you all very much, gentlemen.

The meeting is adjourned.