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## **Standing Committee on Natural Resources**

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**EVIDENCE**

**Tuesday, April 29, 2014**

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**Chair**

**Mr. Leon Benoit**



## Standing Committee on Natural Resources

Tuesday, April 29, 2014

•(0855)

[English]

**The Chair (Mr. Leon Benoit (Vegreville—Wainwright, CPC)):**  
Good morning, everyone.

We're having a little bit of difficulty getting all our witnesses online by video conference this morning, but progress is being made. We have three out of four witnesses now online. The others should be here quite shortly.

I want to start by thanking you all very much for being here today to give the first presentations for our short study of the opportunities that Canada might have to contribute to energy security in Ukraine and the rest of Europe. Again, it's a very timely topic, one of interest, certainly in Canada, but in Europe and around the world as well. I do want to thank you all for being here today, all by video conference.

The witnesses we have with us today are, first, from the Canada Europe Round Table for Business, Jason Langrish, executive director. We also have by video conference from the Petroleum Services Association of Canada, Mark Salkeld, president and chief executive officer. We have from Pieridae Energy, Alfred Sorensen, president and chief executive officer. He'll be here in just a few minutes.

We have with us from the Ministry of Foreign Affairs of the Republic of Poland, Anna Barbarzak, acting director of the economic cooperation department. I thank you very much for being here.

You have a group with you today. When your time to speak comes, could you introduce the others at the table? I think that would be the best way to handle those introductions.

We will start in the order on the agenda, and we look forward to your presentations. We start today from Toronto with the Canada Europe Round Table for Business, Jason Langrish, executive director.

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

**Mr. Jason Langrish (Executive Director, Canada Europe Round Table for Business):** Thanks very much. It's nice to be here in a virtual sense today. I'm calling in from Toronto.

I'll give you just a little bit about the Canada Europe Round Table for Business. We're supported by about 125 chief executive officers of large corporates from Canada and the European Union. We've been quite instrumental in and quite a strong advocate for the Canada-EU comprehensive economic and trade agreement. Essen-

tially, it's a free trade agreement by another name. The reason it goes by another name is that it goes further than free trade agreements traditionally go, into the behind-the-border types of issues.

I think that's really the basis for my remarks today. There's a well-established line of cooperation between Canada and the European Union. There are strong diplomatic and strong intergovernmental ties, but with this agreement we're putting in place an architecture to govern the trade and investment that flow between Canada and Europe, which is substantial, with a bilateral stock of investment of probably more than half a trillion dollars now and bilateral trade of about \$100 billion a year.

A lot of that investment at present occurs in the energy sector, and it goes into the energy sector, primarily into the Canadian energy sector, and that is across the board. This is for everything from supplying turbines to power projects, to hydro dams, to engineering services, and to the massive investments that European companies have been making in the Canadian oil sands and in areas like natural gas as well.

Reciprocally, there has been investment by Canadians into the European energy sector in the same sorts of areas. Also, probably the largest area of investment has been in the North Sea, in the United Kingdom and to a lesser degree in Norway. There hasn't been as much done at the continental level, largely because in Europe that's primarily utilities. Canadian expertise and investment dollars have tended to flow more towards the oil and gas sector and the exploration and development.

So right now we have this architecture, this agreement that's not quite ready but should be signed shortly, and you have a very robust framework that's in place to facilitate commercial exchange. Then you look at the energy relationship. It's healthy, but until now it's been driven primarily by investment. We don't trade a lot in energy, very little, in fact, and notably in oil and gas. There have been some efforts made to rectify that. I think there is an opportunity, notably for Canadian energy resources to be sold into the European market.

As for the degree to which they can offset Russian oil and gas, for instance, or Middle Eastern oil and gas, or that form of energy that comes from more volatile regions, I'm not really sure at this stage. I think it's more a question of there being potential, but there are a lot of questions that need to be asked about this. That's primarily because it's only recently that Canada has started to turn its attention towards potentially moving product off the east coast, as opposed to the more traditional focus of moving oil and gas either south into the United States, within the continental market, or a fairly big push to move it eastwards into East Asia, which is a very lucrative market.

However, there are some projects that have come up as a result both of having problems getting to those traditional markets and because of economic opportunities. One is Mr. Sorensen, who I know will talk about the LNG project and the potential to export gas off the east coast and into the European Union. Also, there's the Energy East project of TransCanada Pipelines, which is, if realized, a very significant project. I think it would be something like 500,000 to 800,000 barrels of oil a day. I assume that a lot of it could be destined for the European market. That would be interesting as well.

• (0900)

However, there's something to take note of, and that is, while we're talking about the concept of exporting energy potentially into the European Union, and I think for the purposes of this discussion, it sounds like we're talking about the European Union. I know that Ukraine is not a member of the European Union, but I would assume that if we were going to be exporting energy over to Europe and the region, it would be entering into the European Union. Europe has been promoting in some corner something called the fuel quality directive, which is a policy to in essence penalize, with tariffs, fuel that comes from sources deemed to have a higher carbon content than other sources. Targeted by that, at least ostensibly targeted by that, are the Canadian oil sands.

I know that the Canadian government doesn't look kindly on this policy. They believe it's discriminatory. It's run into some issues and is going through a bit of bureaucratic stalemate. We don't know where this fuel quality directive is going to end up, but I just point out here that there are a lot of unresolved issues if Canada is going to be a serious supplier into the European market. While there is potential for gas and there have been projects announced on that front that are less contentious, on the oil piece, should even the energy east project be realized, there are other forms of oil export into the European market.

On the one side there is that economic potential, but then on the flip-side there's no clarity yet around how Canadian oil would be treated, notably if it was derived from the oil sands, once it arrives into the European Union, into the European market.

To sum up, we have a very strong relationship, a much stronger commercial relationship than people believe, even in Canada. It's of a magnitude similar to of our relationship with the United States. It's not quite as great as that, but it is very substantial. About 30% of investment into Canada comes from Europe, and about 30% of our investment out of Canada goes into Europe. We trade a lot and we have this free trade agreement.

So we have a foundation to deepen our relationship, including in energy, but we don't have the infrastructure in place and the record of delivering product into the European market. The policies that are being pursued on the European and Canadian sides are at times somewhat divergent.

Those are the things that raise questions. So to sum up, there is lots of potential. I'm not saying it's something that we can't do. However, it would be more of a medium to longer-term initiative, and there needs to be further clarity over how Canadian energy products would be treated if the capacity is developed to export them into the European Union.

Thank you.

**The Chair:** Thank you very much, Mr. Langrish from the Canada Europe Round Table for Business. I appreciate your overview. What these first two meetings will provide, I hope, is a good overview of potential for Canada to contribute to energy security in Ukraine and the rest of Europe.

Our second witness today is from the Petroleum Services Association of Canada. We have Mark Salkeld, president and chief executive officer, appearing by video conference from Calgary, Alberta. Welcome to you, sir. Go ahead please with your presentation for up to seven minutes.

**Mr. Mark Salkeld (President and Chief Executive Officer, Petroleum Services Association of Canada):** Thank you very much, and thank you for the opportunity to participate in this study.

The Petroleum Services Association of Canada is the national trade association representing 250 of Canada's leading oil field service companies that have a cumulative employee base of over 75,000 people. The petroleum services sector in Canada is the second largest contributor to Canadian GDP in the natural resources sector, coming in at approximately \$65 billion. This number is based on 2006 census numbers, and given the continued growth and success of the petroleum services sector over the last eight years, I am certain that the numbers will reveal an ongoing increase.

I make reference to the number of companies, the employees, and the revenue simply because I feel that a measure of the success realized in Canada can be realized in Ukraine. Ukraine holds significant untapped unconventional gas resources and to achieve increased production growth, it will require development of these more challenging resources, including the introduction of advanced methods of horizontal drilling and multi-stage hydraulic fracturing.

This is an area where the Canadian petroleum services sector has also successfully brought together two established technologies in conjunction with innovative information communication technologies linking related equipment, software, and near real-time data during drilling and completion operations. This provides us directional drilling accuracy within meters as we tap into unconventional resources far below the ground.

Ukraine has unconventional resources, Canada has the expertise and technology. The Ukrainian citizens have what it takes to create their own oil field services and the Canadian oil field services have a desire to help. The success as a country we enjoy here is in part because Canada would not be what it is today without the rich Ukrainian culture of hard-working, business savvy, independent-minded citizens that immigrated here and contributed significantly to helping Canada evolve as a strong democratic society with a sound economic system.

The Ukrainian culture is woven into the fabric that makes Canada what it is and stands for, and I am confident that given the support to establish a safe, democratic political environment, and a sound economic business environment in which to do business, Ukraine could find itself in time far less reliant on foreign sources of energy.

Here I have to be blunt in that our member's single largest concern in doing business in Ukraine today—and a few have tried at the request of producers in country—is how to do business in a fair, open, and transparent economic system which currently does not exist fully in the country today.

Some of our member companies have travelled to Ukraine on an Alberta government trade mission in early 2013 with some setting up offices there while assessing opportunities. They were unwilling to continue to try to build viable business opportunities because of the depth of the shadow economy that would have to be dealt with in order to do business and get the job done.

In 2009, 36 Canadian owned and operated services companies contributed to a survey PSAC commissioned to help determine revenue from international sales and operations. It was determined that just under \$13 billion in revenue was generated, on which tax was paid to Canadian provincial and federal coffers.

Another survey recently completed showed a continued desire for our members to seek out international business opportunities, looking to countries that mirror the Canadian regulatory and business regime as closely as possible; countries in South America; the U.S.; possibly Mexico, with its upcoming reforms; and China, where there is significant effort being undertaken to share Canadian oil field best practices with regard to safety, regulation, and operating practices.

The technology being developed, tested, and proven effective here in Canada with regard to the tapping into resources once believed to be diminishing and too economically onerous to go after, have helped considerably in the resurgence of natural gas reserves here at home and across the U.S.

These same unconventional resources can be found around the world, for example, in the U.K. and other parts of Europe. Delegations from Canada have travelled to Germany and Poland, for instance, meeting with officials and business leaders there to discuss the potential of tapping in to their tight gas deposits using Canadian technology and expertise.

The model defined here in Canada—Alberta in particular—for the development of a robust oil field services industry is being replicated in much the same way across the western provinces and can be as well for Ukraine. In the early days of the oil and natural gas industry in Canada, supporting services and supplies were brought in by the explorers from the U.S., and over time these business people immigrated to Canada, established businesses, hired locally, and producers sourced locally.

We realized a similar trend in northeastern B.C., and we are seeing it Saskatchewan and Manitoba. The same type of integration of services and the establishment of local service and supply can happen for Ukraine in the long-run. It would serve the best interests of Ukraine and Canadian oil field service companies wanting to expand their business opportunities.

● (0905)

A significant benefit to be realized through Canadian support of an oil field service and supply sector in Ukraine will be the influx of Canadian oil field best practices when it comes to safety and regulation. Canadian oil field expertise is world renowned, and there

are very few, if any, oil fields around the world that Canadian oil field expertise has not been a part of in one fashion or another. From petroleum and reservoir engineering to drilling and completion technology expertise, Canada is a leader. It behooves us to share this knowledge and to support initiatives that can raise the quality of life, improve productivity, and support independent economic development in other jurisdictions looking to responsibly and sustainably develop their energy resources.

The main areas where Canada could play a role in Ukraine's energy sector, either directly or indirectly, are more accessible coverage by Export Development Canada for drilling and exploration equipment and technologies, including work over, horizontal, spare parts, and pumps, etc.; technical expertise in oil and gas reservoirs management, including depleted fields; and unconventional resource projects and expertise.

Whatever we are able to do, it will still be a decade-long project at best. The business environment in Ukraine would need to stabilize before a large number of our member companies would want to risk their time, people, and equipment in such a risky environment. Stability means not just the absence of military risk and *force majeure*, it also means stable governance and legislation, and confidence in a rules and laws-based business environment.

For the rest of Europe, as per your mandate, conventional oil and gas is a very mature market and has been dominated by well-entrenched players for over a hundred years.

However, as stated above, when it comes to unconventional oil and gas, there are real opportunities for Canadian companies. It depends which countries open up their territory by legislation, permitting—or at least not forbidding—horizontal drilling and multi-stage hydraulic fracturing and the technologies that support the safe, efficient, and productive means of employing these services.

Thank you.

● (0910)

**The Chair:** Thank you very much, Mr. Salkeld, from the Petroleum Services Association of Canada, for looking at the opportunities Canada has to contribute through innovation, technology, and equipment.

Next we'll go to Mr. Alfred Sorensen, president and chief executive officer of Pieridae Energy Limited. Mr. Sorensen is with us by video conference, from Calgary, Alberta.

Welcome to you, sir. If you could go ahead with your presentation, you have up to seven minutes.

Thank you for taking a jog from one office to another in Calgary this morning. It is much appreciated.

**Mr. Alfred Sorensen (President and Chief Executive Officer, Pieridae Energy Ltd.):** It feels like spring today, so that was okay.

Good morning. My name is Alfred Sorensen. I'm the president of Pieridae Energy.

We are currently developing a liquefied natural gas terminal on the east coast of Canada to export gas primarily to the European Union. About a year ago we concluded our first transaction with E.ON, the German utility, to export 5 metric tonnes and we are currently marketing the second train.

I would say, when you look at these big projects, they take a considerable amount of time to get up and running. We've been working on the development of the project for about two years and it will take about another three and a half years to four years before we'll be able to begin moving volumes into Europe.

There is an absolute opportunity, from a pricing perspective, to move large volumes of natural gas out of North America. Certainly in the United States the Marcellus or Utica basins have reduced the cost of developing unconventional gas reserves significantly, and that technology continues to be taken throughout North America. So from a supply perspective, the combined U.S.-Canada gas reserves certainly act as a potentially large supply basin for Europe, particularly western Europe.

When you look at how gas from Canada could access markets further east, certainly that becomes a more difficult opportunity given the fact that the farther you go away, the more costly it is to move the gas. We've begun speaking with both Poland and the Baltic nations as to how we might be able to move gas into those environments. Certainly, the continental gas market in Europe is already very liquid in terms of how gas moves between east and west, north and south. That's actually one of the reasons that I think Canada could play a very good role in opening up markets in both western and central Europe. We already have had 20-plus years of a deregulated gas market, which certainly lends itself well to bringing that type of technology and economic certainty to buyers in those markets.

One big aspect of our project is that it does bring a new supply, which would certainly diversify Ukraine and Europe away from having one big supplier, such as Russia. There is some degree of security of supply that comes from having multiple suppliers versus having one or two suppliers. Probably the one aspect of this whole transaction that might be interesting for other players is to bring in multiple players and perhaps reduce the influence of one player over the economies of western Europe. We have seen with the transaction that we recently completed with E.ON that a large part of the reason they came to our project was that it provided for some diversification away from Russia.

The things that buyers need to look into when they're looking to do these long-term contracts—because the amount of capital that's put into our project is roughly about \$8 billion, and thus certainly on a Canadian scale, as large as an oil sands projects—is that buyers have to be able to commit for 20 years and have a credit rating that allows for the debt support, and there has to be a regasification strategy in place. Often these projects don't develop properly together so that liquefaction may come on before gasification, and in order for the whole process to work there has to be a considerable amount of coordination on both sides of the ocean. One area where we've seen a considerable amount of interest in the last little while is

how volumes of natural gas can actually move into the European Union or central Europe, but it really does require significant new infrastructure.

Two weeks ago when I was on the Prime Minister's trade visit to Germany, Chancellor Merkel made a very good point that it's good to talk about moving away from one supplier, but that significant infrastructure needs to be in place before that can happen. What I've seen in the two or three weeks since we were there is that there is considerable interest in Germany particularly, to begin to build that infrastructure in-country.

● (0915)

In conclusion, I would say that in our dealings so far, there has certainly been significant interest from major European players to look at Canada as a major supplier of energy. I think, to date, some of that interest has been more on the west coast rather than on the east coast. Certainly, eastern Canada is geographically well-situated to be able not only to bring volumes through the United States but also to develop our Canadian volumes such that we can play a significant role in energy security for western and central Europe.

Thank you.

**The Chair:** Thank you very much, Mr. Sorensen, from Pieridae Energy Ltd., for bringing a perspective from a company that is building a facility that could, in fact, export to Europe.

Our last group of witnesses today is from the Ministry of Foreign Affairs of the Republic of Poland.

I want to thank you very much for being with us today, this morning here and this afternoon there. We have as our witness, Anna Barbarzak, acting director of the economic cooperation department at the Ministry of Foreign Affairs of the Republic of Poland.

You could start by introducing the others there at the table and then go ahead with your presentation for 7 to 10 minutes. Go ahead, please.

**Ms. Anna Barbarzak (Acting Director, Economic Cooperation Department, Ministry of Foreign Affairs of the Republic of Poland):** I will, Mr. Chairman, as long as the time won't be taken from my seven minutes.

**The Chair:** Go ahead. I will allow you the extra time.

**Ms. Anna Barbarzak:** Good morning Canadian time, and good afternoon Warsaw time.

I'm very happy to be invited to this hearing. It's my great honour. I think today's discussion is a very timely and important one, so we really appreciate your time. Thank you very much for the previous comments. They definitely set the stage for a very interesting discussion.

Let me introduce my colleagues: Mr. Grzegorz Kozlowski, head of the department of America at the Ministry of Foreign Affairs; Mr. Stanislaw Cios, head of the international energy cooperation unit at the department for economic cooperation at the Ministry of Foreign Affairs; Ms. Beata Slonimska, from the department of America; and Mr. Tomasz Kijewski, from the energy unit of the economic cooperation department, and also a future diplomat at the Polish embassy in Canada.

Mr. Chairman, honourable members of Parliament, and distinguished participants of this discussion, I would like to use this opportunity to reiterate the excellent political and economic cooperation we have had over years between Poland and Canada, reflected also in last week's visit of the Canadian Minister of Foreign Affairs, Trade and Development to Poland. During the visit we had an opportunity to sign the statement of principles of coordinated engagement on Ukraine and eastern Europe, part of which was also dedicated to the energy issue, which confirms our common approach and our joint work towards this goal.

I would just say, because some things were mentioned about excellent business cooperation, that business cooperation was also a part of the visit last week. We have had an opportunity to also hold business-oriented meetings, which are a reflection of the very good cooperation between our countries, including the business communities.

Coming back to the topic, I would like to start by making two assumptions here. First of all, the energy situation in Ukraine is an important determinant of energy security of central and eastern Europe and countries beyond the region from the perspective of the short, medium, and long terms. Ukraine retains an important role as a transit country for Eurasian gas to Europe. In the short and medium term, the flow of gas through Ukraine is a key to the energy security of the region. I just want to point out that eight countries of the EU import gas from Russia.

Secondly, the way Ukraine will tackle the task of modernizing its energy sector and meeting energy security challenges will be critical in achieving the success of the entire transformation process of the country. Ukraine wasted the last two decades to move away from one dominant supplier and reduce consumption of energy; as a result, today Russia can arbitrarily set the price for gas and demand economic and even political concessions from Ukraine.

International assistance to modernize the Ukrainian energy sector is a challenging must today. Although the political situation in eastern Ukraine is changing day by day, one thing is certain: we should intensify our efforts, work on immediate assistance, and analyze all the possible options we have.

To set the stage for our discussion, let me sketch out the energy landscape of Ukraine right now. First of all, Ukrainian economy is highly dependent on natural gas, the fifteenth worst consumer of gas. It accounts for 36% of the total energy supply. Almost 60% of gas consumed in Ukraine in 2013 was imported from Russia. These imports accounted for 8% of Ukraine's GDP. The obsolete and ineffective system of transmission and distribution is a factor additionally complicating the problem.

Second, the challenges faced by the nuclear power sector should not be underestimated in our discussion. Ukraine is strongly dependent on nuclear fuel imports from Russia. As nuclear power accounts for almost half of the electricity production in Ukraine, the strong dependence puts the nuclear energy management at risk and can negatively affect the economy in case of possible disruptions.

Third, concerning the coal sector, despite the vast resources that Ukraine possesses in this respect, this sector needs modernization and improvement in cost-efficiency and safety procedures. An

efficient coal industry would be a reliable domestic resource capable of delivering adequate energy volumes.

● (0920)

Fourth, the Ukrainian economy is one of the most inefficient in Europe. In 2013 the energy efficiency of Ukraine was merely 54% of the EU average. The industry consumes over 50% of natural gas, while its energy efficiency is estimated at 25% of the EU average.

Any disruptions of supply can lead to further destabilization of the economy and social unrest, especially in the eastern and southern parts of the country, which are home to the energy-intensive metallurgical and chemical companies. If Ukraine increases its energy efficiency to today's EU level, it could save annually an amount of energy corresponding to 34 bcm of gas.

Recent events in Ukraine and an increase in the price of gas imports remind us once more remind of the problems in the Ukrainian energy sector and call for immediate assistance to the country. With almost empty gas storage facilities, a growing debt, and Russia's threats to halt gas supplies, we can expect a severe crisis in the coming winters. The remedy lies in diversification of suppliers.

A reverse gas flow from the EU could give the Ukrainian government a much needed alternative supply and put pressure on Gazprom, but modernization of the infrastructure would be needed, as well as removal of existing technical and legal barriers. I would be happy to delve more into these details during our discussion. This is the short-term picture.

In the long term there are more prospects for change. However, this will require enormous investments, a coherent strategy, and competent people to help Ukrainians. Fast-track reforms and an accelerated process of engaging with foreign partners in various projects are necessary.

I would indicate four major components of prospective Ukrainian energy sector reforms in the medium and longer-terms.

First of all would be supply route diversification. Never before has the lack of an independent energy system in Ukraine, as well as in Europe, been shown so clearly. Developing diversified and integrated energy markets is a key to ensuring the energy security of Ukraine.

Second would be an increase in domestic energy resources production. Ukraine is blessed with domestic resources, both conventional and unconventional. Their development could be a remedy for the Ukrainian problem of high dependence on imports, and I was very happy to hear the comments of our previous speakers on this topic.

A shift from gas to coal-based power generation could also lessen the problem, but significant investment in technology transfer would be necessary to accelerate the process. Assistance in modernizing coal mines by implementing advanced technologies that improve the efficiency and safety in mining would further help to strengthen the energy security of the country.

Third would be improving energy effectiveness. The gloomy Ukrainian statistics indicate there is huge potential, which could result in a substantial change. International assistance, including from the international financial institutions, is indispensable.

Fourth is the need to decrease internal demands for energy. The liberalization of domestic energy prices by a gradual removal of subsidies and the implementation of the metering system is necessary to lower the internal demands and increase efficiency.

The international financial institutions' assistance, which was already discussed and is partly in place, will be decisive for these reforms and modernization. The World Bank, IMF, and EIB are already active in energy effectiveness and infrastructure projects.

More importantly, we need to help Ukrainians with necessary knowledge and capacities to eventually take ownership of their energy policies. Without this our efforts will take us nowhere. Some countries, including Poland and Canada, have already expressed readiness to assist the Ukraine bilaterally. Canadian experience and expertise in developing locally available resources, especially unconventional hydrocarbons, could help Ukraine in developing its resource base and limiting dependence on imports from Russia.

We hope that Canada would support Ukraine by developing projects and increasing energy efficiency. Development of energy effectiveness programs, including thermal modernization, offers huge potential in energy savings in Ukraine.

With the growing potential of energy resources, Canada can play a significant role in increasing the supply of oil and gas on the world market, which could also have a positive effect on Ukraine, and not only on the Ukrainian economy.

• (0925)

To conclude, I would like to say that we very much look forward to working together with Canada in addressing these challenges. Let me also emphasize that last week during the visit of the Prime Minister to Poland, we tabled a paper offering food for thought on how both our countries can work together in assisting Ukraine in energy modernization projects. I'd be very happy to share more details of this paper and discuss the proposals that were included in it.

Thank you very much.

**The Chair:** Thank you very much, Ms. Barbarzak, acting director, economic cooperation department for the Ministry of Foreign Affairs of the Republic of Poland. Thank you very much for a very concise and helpful presentation looking at this issue from the perspective of Poland and Europe.

We go now to questions and comments from members.

First of all, I want to welcome all the members of Parliament back from two constituency work weeks. It's good to see you back here.

I want to remind the members of the committee that we're not the foreign affairs committee; we are the natural resources committee, so let's keep our questioning and comments, as much as we can, to the natural resource component. The presentations have done that extremely well, and I encourage all members to do that. We will start

the seven-minute round of questioning with Mr. Calkins, followed by Mr. Nicholls, and then Mr. Regan.

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

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

Thank you to our witnesses.

*Dziękuję bardzo* to Anna and your team there.

My question is going to start with Mr. Salkeld because there is something I need to work through here.

As a former rig hand and so on who has worked on directional drilling projects, when I look at countries like Poland, I see that there have been about 40, or even more, wells drilled there for some exploratory work. It seems like some companies in the Canadian sector that have been over there have given up on some of those exploration activities.

Can you enlighten this committee on how many wells it took to get into some of the tight shale? I'm sure we drilled a lot more than 40 wells in order to figure out how to get gas out of some of these formations.

• (0930)

**Mr. Mark Salkeld:** Thank you very much.

On the subject of Poland, I apologize in that I can't speak in detail on the exploration activities. I do know from talking to our member companies that had traveled over there that the efforts involved in identifying and tapping into the unconventional resources in Poland were some of the most onerous that they had come across. A lot of the effort with respect to seismic data and identifying the actual resource and then drilling into it was extremely difficult. I apologize, as I can't really expand much more on that.

**Mr. Blaine Calkins:** No problem.

I'm going to switch, then, and start asking some questions of our Polish colleagues, our witnesses who are at the table here.

I know that the Chair has already admonished me for going down this road, I would just like to put the context of the question and note that article 2 of the North Atlantic Treaty says that we should be building stronger economic and bilateral relations with our allies. I'm just wondering whether you can expand on that.

You talked about the statement of principles that was signed between Canada and Poland insofar as dealing with Ukraine. Can you expand on how that statement, going forward, will strengthen, according to article 2 of the North Atlantic Treaty Organization, Canada and Poland's position in dealing and providing better energy security, not only within NATO but also for Ukraine?

**The Chair:** Go ahead, please.

**Ms. Anna Barbarzak:** The discussion on the energy security is taking place when the situation is very serious in Europe. Everyone is looking into the possible constructive resolution of the problem in the short and long-terms, using the existing mechanism, as you know, along with NATO.

We have been working with Canada on the issue of Ukraine for some time. Right now we see an immediate need to enhance our efforts to provide well-tailored support to the Ukrainians in a very short period of time. That means possible diversification of supplies in the longer term, so that means reforms in the energy sector.

That has not changed. The modification is that we are now looking into a more intensive and more enhanced approach so that we can accelerate the process of change that we have been working towards together over recent years.

**Mr. Blaine Calkins:** Given the current climate over there and your experience in the area, would you say that arbitrary price-setting by Russia for natural gas this coming winter is likely?

**Ms. Anna Barbarzak:** The situation in Ukraine is changing day by day, and it's very difficult to predict with the situation that we are in right now what will happen in the winter. What we are looking at is taking in all possible scenarios. The problem is that we can be faced with a challenge of shortages of energy resources supply in the wintertime, which is the most critical and most difficult in this respect.

But you are probably following the discussions between Russia and Ukraine on the issue of energy, and also the EU is actively participating in trying to find a constructive resolution to the problem.

**Mr. Blaine Calkins:** How difficult is the political and economic environment, particularly in eastern Europe, when it comes to reversing flows in your infrastructure, for example, in your gas pipelines, so that if you were to get more....

If continental Europe were to get more natural gas from sources they don't—perhaps the east coast of Canada, for example—how hard would it be to reverse the infrastructure, to basically displace any effect that Russia might have with its arbitrary price-setting techniques?

**Ms. Anna Barbarzak:** Perhaps I will let my colleague speak on this issue because he's following it also from the technical point of view. He will give you more details.

Mr. Stanislaw Cios is in my department.

**Dr. Stanislaw Cios (Minister-Counselor, International Energy Cooperation, Economic Cooperation Department, Ministry of Foreign Affairs of the Republic of Poland):** There are two problems associated with this issue. One is the issue of infrastructure. This means pipelines. The second one concerns the possibility of reverse flows. Both are hindering the possibility of diversification and increasing the supply of gas in the short term in this part of Europe.

In regard to Ukraine, Poland could supply this country with roughly 1.5-bcm annually. Also, Hungary could supply gas on more or less the same level. However, the only substantial possibility of assisting Ukraine in the delivery of gas from the European Union would be through Slovakia. There are ongoing talks on creating a reverse flow on the Brotherhood pipeline, but this would require substantial modernization of the pipeline itself, because it would have to be done not only on the border but also on the long stretch of the pipeline deep into Ukraine. Secondly, from the legal point of view, it would require certain adjustments and agreements, including

a certain solution that has to be agreed on with Gazprom, a major stakeholder in this issue.

In regard to the central and eastern part of Europe, there are already some interconnectors that have been developed between the countries since the crisis in 2009—for example, the interconnectors between Poland and down to Czech Republic, the Slovak Republic, Hungary, Romania, Bulgaria, and other countries in the region. But at the moment, these are inadequate to deal with a massive crisis comparable to the crisis in January 2009. This requires many huge investments that cannot be done purely on the basis of market principles. They require substantial assistance from public funds.

Thank you.

● (0935)

**The Chair:** Thank you, and thank you, Mr. Calkins.

We go now to the official opposition and Linda Duncan, for up to seven minutes. Go ahead please.

**Ms. Linda Duncan (Edmonton—Strathcona, NDP):** Thank you very much. I would like to go to Poland first. I apologize for my rendition of your language.

*[Member speaks in Polish]*

**Ms. Anna Barbarzak:** *[Witness speaks in Polish]*

**Ms. Linda Duncan:** I also wish to extend congratulations to you in Poland on your 10th anniversary of EU membership. You know that Canadians are very proud of our association with Poland and welcome the friendship and future relationships both in government and in business.

I listened very attentively to your presentation. It was very succinct and very helpful. One of the aspects that you mentioned is the challenge of the modernization of the infrastructure, probably not just for Ukraine but for the distribution of gases and alternative fuel across Europe. You mentioned, Mrs. Barbarzak, that it's going to require enormous investment. I wonder if you could elaborate a bit more on who would be likely to come forward to construct that infrastructure, including your LNG infrastructure that—congratulations—you're developing. What would be the complications with Gazprom?

**Ms. Anna Barbarzak:** First of all, thank you very much for remembering our very positive anniversary. I just wanted to point out that this is also part of the success of our alliance that has over years helped and supported Poland in our efforts to become a member of NATO and the EU. We should extend our thanks to all our friends who have not lost the faith and supported Poland during this time.

In relation to your question—and let me put it this way—a lot of energy infrastructure is in place. The problem is that the European energy market is not fully integrated. For example, if you look at the LNG infrastructure, it is already in place. We have, as far as I remember, close to 20 *[Inaudible—Editor]* plants in all of Europe, but not a lot of the potential volume is used today. When discussing the possible scenarios in Europe right now, we looked at the costly infrastructure in place. We now have interconnective systems and integrated corridors that will take us from, for example, Spain, which has potential in this respect, to Poland, for example, and farther to Ukraine.

What the European Union is looking at right now is trying to discuss options, how to streamline and accelerate the development of infrastructure that was either considered or done at certain stages so that we can fully integrate the internal market in the EU. Ukraine is also a big challenge in terms of cost and investment. I understand that there is a lot of investment already, of funding already generated by international organizations, that also goes to the development of infrastructure in Ukraine. I hope this will ensure there is some progress in the development of infrastructure and that there will be critical energy infrastructure in Ukraine in quite a short period of time, because this is what is needed right now.

• (0940)

**Ms. Linda Duncan:** I also noticed, Mrs. Barbarzak, that you made mention of the initiatives through the EU for improved energy efficiency. Of course, we're aware as well that the EU nations committed through the G8, now G7 along with Canada, to remove subsidies to the oil and gas sector. I wonder if you could expand a bit more on discussions that are going on. There was mention by some of the Canadian oil companies involved with oil industry here about meetings recently with Merkel in Germany. We know that a good number of the European nations are trying to shift over to renewable sources and invest heavily in energy efficiency.

I wonder if you could elaborate a bit more on that. Is Poland as well participating in that and pursuing it? You mentioned that it would be helpful in the number of things you recommended to Canada that Canada could potentially also provide expertise in improved energy efficiency.

**Ms. Anna Barbarzak:** Yes. Thank you very much for this question.

Energy efficiency in the case of Ukraine offers great potential because of such negative numbers and statistics that we are faced with today. Poland is probably not one of the most efficient economies in Europe, but per capita, the Ukrainian economy is three times less efficient than Poland's. In terms of the GDP units, it's even worse. It's 10 times more energy-intensive in the case of Poland.

Therefore, I think that in order to reach the goal of decreasing the energy consumption in Ukraine, we must have a coherent approach to achieving energy efficiency in Ukraine, both in terms of the industries and in terms of the distribution of energy and energy generation in Ukraine. I think a lot can be achieved.

A lot of effort has been invested in the Ukraine, but the fact is that there's a lack of ownership, and there's no comprehensive approach to energy efficiency policies in Ukraine. The deficiencies of the regulatory system, which could help develop certain policies and strategies that, for example, were the case with Poland over the last two decades, are the major obstacles to achieving some success in Ukraine.

Some nations that have been active in this spirit in Ukraine have been very frustrated by the effects of the already invested funding. What we need to do is revise our policy so we can find a way of exporting the knowledge to the Ukrainians, so they can take ownership of the changes being made to the energy sector and of energy efficiency projects in Ukraine. This is my conviction.

When you look at the case of Poland, because we've also travelled a long way in our energy efficiency blueprint in Poland, you see that with the help of other nations, we were able to develop capacities and know-how that helped us distribute and conduct the policies and the strategies that we had put in place at the very beginning. This is what is desperately needed in the case of Ukraine.

• (0945)

**The Chair:** Thank you.

**Ms. Anna Barbarzak:** Mr. Cios will also add to this.

**The Chair:** Very briefly, please.

**Dr. Stanislaw Cios:** Yes, just briefly.

One of the key problems in Ukraine is the low price of energy, which does not stimulate efficiencies and savings. Therefore, the whole energy system and the pricing must change in Ukraine. But raising the price of energy and establishing a market price offers serious political and social challenges, because the society at large is rather poor, and it would be very difficult for it to accept high market prices for energy. This might lead to other serious challenges for the society.

**The Chair:** Thank you.

Mr. Regan, you have up to seven minutes. Go ahead, please.

**Hon. Geoff Regan (Halifax West, Lib.):** Thank you, Mr. Chairman.

I want to thank our witnesses today, who have been absolutely excellent. This is very interesting.

I'd like to go right back to that last comment by that gentleman from the Ministry of Foreign Affairs of the Republic of Poland, who said that serious political and social challenges would result from raising prices. Wouldn't this also cause serious economic challenges?

**Dr. Stanislaw Cios:** It would create certain economic challenges, especially as regards the competitiveness of the industry. Nevertheless, in our opinion, the main challenges that we would face would still be political and social ones, because to implement such a policy of energy effectiveness and efficiency requires, in any scenario, public support for such a policy. In the long term, of course, this would imply support for the government and political and social stability.

**Hon. Geoff Regan:** It's not easy to put aside this problem, but putting it aside for a moment, and for our discussion, you talked about the role that Gazprom would have to play in terms of modernizing the pipeline system within Ukraine. Obviously, I would assume that it's not in Gazprom's interest to cooperate in something that will result in them losing business, so my question is, how much of an obstacle would Gazprom be to this development and for how long?

**Dr. Stanislaw Cios:** First of all, the problem with Gazprom is the price of gas, which has been raised significantly by Gazprom in the last few weeks. Secondly, Gazprom has a contract with Ukraine for the supply of gas, and one of the key elements in this contract is that the gas that passes through Ukraine has to be exported.

One of the elements considered in Europe as a possible way of assisting Ukraine is the virtual reverse. Gazprom is rather unhappy about the possibility of the virtual reverse, which would solve part of the problems of the Ukrainian gas sector.

**Hon. Geoff Regan:** Thank you.

Let me turn to Mr. Sorensen.

As a Nova Scotian, of course it's interesting to me to hear about your plans in Goldboro. I realize that location in Goldboro is already connected to the North American natural gas grid, because of the Sable offshore energy project and now Deep Panuke, but I'm still interested in where you expect you would obtain natural gas. Is it obvious, or could you expect over time to be purchasing or receiving natural gas from different parts of North America?

● (0950)

**Mr. Alfred Sorensen:** Under our current plan, we certainly will have the two trains, or it's 10 metric tonnes, equivalent to about 1.5 bcf of gas a day.

The first train is very much focused on Canadian offshore gas, taking the reserves that today are uncompetitive and moving into the United States, which was what used to be its natural market, then looking at developing the New Brunswick onshore, and particularly even maybe the Nova Scotia onshore once they get through their fracking issues.

The second train is very much focused on Marcellus production in the United States. As you already mentioned, that's all connected to the grid through the Maritimes and Northeast Pipeline, which currently runs from north to south. I think that when you talk about the reversal of infrastructure, here's a very good example of a pipeline that was designed to do that.

If you want to take that same scenario and move that to Europe, the pipeline systems aren't designed to go backwards and forwards. They're really very much designed to go in one direction, and just as we've seen here in Canada, to try to reverse flow—including the Enbridge's line 9, a few months ago—is physically difficult to do, but it's also sometimes not even technologically possible. In our scenario, one of the reasons why Goldboro was a very good place to start trying to build an LNG terminal was the fact that the pipeline itself was already designed to go in both directions, and so the reversal to bring gas from the United States into Canada, versus going in the other direction, was already a viable option and a relatively inexpensive one.

**Hon. Geoff Regan:** Mr. Sorensen, we just heard a minute ago from the gentleman from Poland about the issue of pricing in Ukraine and how it's low and is a problem.

Yesterday I was reading an article that said, for instance, that the new LNG plant in Louisiana, the first one to be built in North America, is likely to sell its product to Asia. If those sales to Asia offset some of the sales from, for instance, the Middle East, those Middle Eastern products might end up going to Europe instead. But you're talking about direct supply to Germany.

When you're looking from the point of view of an LNG plant in Goldboro, first of all, am I right to assume that your first consideration would be where the best price would be obtained?

Secondly, obviously, you've said that you were talking to a utility in Germany, which is of interest. What facilities \*have to exist in Germany or elsewhere in Europe to, let's say, unpack or to gasify the LNG before it can be put into pipelines?

**Mr. Alfred Sorensen:** First, starting with pricing, certainly North America is not a cheap place to develop a resource. It takes a significant amount of capital to get to where we need to go. Certainly we've seen prices come down here very rapidly because of all of that development technology-wise. I'd say the full cost replacement of natural gas in North America is probably around \$5, so by the time you add all the costs to ship it overseas, you do need markets of some certain size and price to absorb those cost structures. That's principally what they're talking about when they say most of the gas coming out of the Gulf more than likely has to go to Asia, because that's where the highest prices are. So it's really as a function of cost and profitability that the formula begins to take place.

I think what you are going to see worldwide on LNG prices, and certainly even within the European Union—and this past winter, which was a relatively mild but wet, prices were relatively stable in Europe—is that for volumes to be attractive, the price has to go up. The price will probably eventually settle to one that is somewhere between the price in Asia today and the price in Europe today.

When you look at countries like Qatar or Australia, each of these countries has different advantages from a shipping perspective, so when it comes to getting gas into the Ukraine from different places.... For example, I think RWE, the other major German utility, was just recently able to bring a cargo of LNG into Ukraine—I think more to show it could be done versus that it could be done profitably. In our own discussions on moving gas into eastern Europe, certainly I don't think price-wise it's any less than what currently is being charged by Gazprom. So overall the international price of natural gas is set by different events. If you look at what happened with the Fukushima disaster, in 30 seconds, almost immediately, the value of natural gas changed, because Japan turned off its nuclear fleet so things changed very rapidly. That's probably one of the reasons why long-term contracts are important, in that you can have some price stability. But overall, North America works on a capitalist system, so the volumes are naturally going to move to the highest-price markets regardless of how it works.

Since we don't have a government regulation within our marketplace, whether it be Canada or the United States, that forces volumes to go where one might want them to go for other reasons. You have a scenario where we very much deal on a purely commercial basis. So that makes things a little bit different, from that perspective. If you look at Gazprom as a company, it acts very much the same way. They use energy as a tool more in eastern Europe than they obviously can in western Europe, because there are more alternatives and they can just push them back.

Generally speaking, I would say from an economic perspective, whether it's on the Gulf coast or with Goldboro or in western Canada, pricing certainly has to be at a certain level to ensure an economic return.

● (0955)

**The Chair:** Thank you.

Thank you, Mr. Regan.

We will go now to the five-minute round. We will start with Mr. Trost, and then go to Mr. Leef, Mr. Nicholls, and then Mr. Opitz.

If we could start, first is Mr. Trost, for up to five minutes.

Go ahead, please.

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

Mr. Salkeld, you mentioned something in your testimony earlier, when you discussed some of the difficulties as far as drilling and so forth in eastern Europe are concerned. You noted that Poland was an area you didn't have specific knowledge of. Could you again give us a bit of an overview of what the real difficulties are as far as producing gas is concerned, particularly in Ukraine, but also in other eastern European areas? Is this predominantly an infrastructure question? Is this predominantly a geological question, or predominantly a political question?

Give us a little bit more context, because one of the questions we're asking today is whether there is room for Canadian technology, for us to make some money, and also for more production in the European, particularly eastern European, market.

**Mr. Mark Salkeld:** Thank you very much.

To your last question, yes, there is opportunity for Canadian services companies to develop revenue, earn money in the European market, specifically because of the technologies we have today in North America with respect to horizontal drilling and multi-stage hydraulic fracturing. As we've seen in North America, that's opened up what we once thought were un-economic plays to develop. Well, those same types of unconventional resources are in Ukraine, where they are actually drilling and producing unconventional resources currently. But there's room for modern technology and what we have to offer with respect to the microseismicity, the ability to analyze the data accurately, to drill very accurately into these unconventional resources—

**Mr. Brad Trost:** What's holding them back?

**Mr. Mark Salkeld:** —to drill the long, horizontal legs with multiple stage fracking, drilling highly productive wells with a fewer number of wells on the surface.

**Mr. Brad Trost:** So what's holding them back? Is it regulatory issues then, is it political difficulties? Most of the countries, unless there are environmental questions, want to produce their own gas. It's profitable, etc. So what's holding them back?

**Mr. Mark Salkeld:** Right now with respect to Ukraine itself, it's essentially the business environment. It's very onerous as I mentioned in my testimony. Our members have been there, where it's difficult to deal with the shadow economy. I was actually just there and heard first-hand in Kiev that the shadow economy there is essentially cradle-to-grave.

•(1000)

**Mr. Brad Trost:** May I make one more comment—

**Mr. Mark Salkeld:** That said, I was part of a group that went to Siberia in the early nineties when it opened up, and we're still operating there very successfully over 20 years later and it's come around. So there are definitely success stories and those are similar types of resources and geology.

So the biggest holdback, in Ukraine in particular, is the business environment. The second part is that there are areas of Europe that are leery about the new technologies. We're doing our best to try to educate them, not only in Europe but in North America as well.

**Mr. Brad Trost:** Very—

**Mr. Mark Salkeld:** So this involves economics and politics to a certain degree.

As for the regulatory regime, we have a very significant one here in Canada, a very good one, that we could always apply and adapt to an existing regime there and make the best of two worlds.

**Mr. Brad Trost:** I'll turn now to our Polish witnesses. Building on the question I asked Mr. Salkeld, and I realize you're speaking for Poland today, but looking at the broader context in other European countries, particularly eastern Europe, what is the potential there? This is not just a question for one country. What is the potential and what is holding back the potential for more domestic natural gas production?

I know that in Poland you're looking at doing things to go forward, but are there other countries that are being held back by regulatory and/or political issues? Or is this merely a geological issue, in that unconventional technologies may be great but there are only so many places where you can produce gas because of the geology.

What is the broader context in other European countries other than Poland and Ukraine?

**Ms. Anna Barbarzak:** Thank you very much.

I just want to point out that we have had this discussion on the development of unconventional resources and domestic resources in the European Union, including in the context of the current situation in Ukraine.

While we have been talking to our friends and colleagues from abroad and across the Atlantic regarding possible exports of resources, we are also aware that we have to do some homework at home. That means we need to work very intensively on possible development of the production of domestic resources in Europe. As you know, Poland is one of the pioneering nations among EU members and other European countries in the development of unconventional resources, unconventional hydrocarbons.

This is all related first to the regulatory process that has to go hand in hand with the investment and the technological development and work in place. We have had three years of intensive work on our regulatory system in Poland. We finalized the first stage in February of this year. There was a lot of public discussion about whether or not there should be the development of production of unconventional resources, but I think we have done quite a good job in developing and reaching compromise among all players in this respect.

There are some nations in Europe that are still very much against the production and development of unconventional resources. There are some countries that have introduced moratoria on the development of unconventional resources. I believe the discussion of the situation in which we find ourselves today will help convince the opponents that we will definitely need to use this opportunity to increase our energy security in Europe.

I hope this will be embraced within the entire discussion on how to work together on enhancing energy security in the European Union.

**The Chair:** Thank you.

Thank you, Mr. Trost.

We go now to Mr. Leef, followed by Mr. Nicholls and then Mr. Opitz.

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

•(1005)

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

Thank you to all of our witnesses.

My first question will be for Mr. Salkeld.

We heard our witnesses from Poland describe energy efficiency in Ukraine as poor and well below European Union averages. There was some discussion as well about the challenges of trying to improve that efficiency and about how simply raising the cost would create some social challenges there.

What role do you see Canadian companies potentially being able to play in the improvement of energy efficiency, and what time frame are we able to deal with in that regard?

You talked about the medium and long-term game, and I think when we're talking about those aspects of conventional or unconventional drilling, or moving things to market there, it does make sense that it would be a medium to long-term game.

But in terms of Canadian expertise and energy efficiency, surely we must have companies that are able to deliver some more immediate solutions to those challenges.

Maybe I could get you to talk about that a little bit, if you have any insight.

**Mr. Mark Salkeld:** Sure. Thank you very much.

In regard energy efficiency, Canadian service company expertise can help by utilizing the latest technologies to develop resources in-country for those countries with unconventional resources. Those efficiency gains learn from the 70-plus years of experience that Canada has developed in our own natural resources, taking these technologies that are new into Europe today and applying them, drilling into those formations and producing resources locally. Part of the model that helps is bringing that technology in and then hiring locally, teaching locally, and opening up opportunities for local businesses and entrepreneurs to start supplying locally. That's what producers look for first and foremost. With respect to the economics, it's to lower the cost as much as possible.

The efficiencies are bringing modern technology into Europe to develop unconventional resources and developing their own energy services sector in-country, thereby becoming less dependent upon foreign technologies, resulting in lower costs. It's the efficiencies through domestic production based on modern technologies that are the biggest help.

**Mr. Ryan Leef:** You touched a bit on the teaching aspect of it. Where do Canadian companies sit globally now and where could they sit in the European market with instruction and training?

**Mr. Mark Salkeld:** I've worked overseas, in Europe and Siberia as I mentioned. The basic model is that we come in on a contract to teach to the point where local nationals can take over. I won't say that's the overriding model for all Canadian producers exploring internationally, but it is a significant model because it simply makes sense to teach locally.

To answer your question, that is typically a Canadian model. Any kind of producer model is to support local economic development and support the creation of jobs and knowledge. As I said, it helps lower costs when you can source locally. We see that model here in Canada as well as internationally.

My first international stint was in 1980 on contract. When I left there after two years, the local nationals would service the rig and maintain their own equipment by themselves and my contract wasn't renewed. That's the general model still.

**The Chair:** Thank you, Mr. Leef.

Your time is up.

We go now to Mr. Nicholls, followed by Mr. Opitz and then Ms. Duncan.

Go head, please, Mr. Nicholls. You have five minutes.

•(1010)

**Mr. Jamie Nicholls (Vaudreuil-Soulanges, NDP):** Thank you, Mr. Chair.

Mr. Leef has put this proposal on the table to look at solutions for energy security in the Ukraine and the rest of Europe. I'm skeptical about a lot of these solutions in the short term.

Mr. Sorensen, you said that the timeline for an LNG terminal, yours in particular, is three and a half years. Did I understand that correctly?

**Mr. Alfred Sorensen:** That's three and a half years of construction. It's already been two and some years on the development side. It's like five to seven years in total that you need.

**Mr. Jamie Nicholls:** I'm looking at short-term solutions for Ukraine's energy security. You've even stated that the price wouldn't necessarily be lower at the gas pumps because we function in capitalist markets. Is that correct?

**Mr. Alfred Sorensen:** That's correct.

**Mr. Jamie Nicholls:** Exactly.

I'm skeptical about all of this. If we then stimulate our own gas sector, that will probably mean there's an increased demand. If there's an increased demand, it means increased prices for Canadian consumers. Is that not correct, in a supply and demand system?

**Mr. Alfred Sorensen:** I suppose. In our scenario, the demand is going to be met by an increase in the supply at the same time. It's not taking the same molecules that are coming from one source and going to another. It's both a demand and supply increase.

**Mr. Jamie Nicholls:** I see.

In the short term we can see that this won't answer the energy security problem in Ukraine and Europe. We should be talking about true energy security, which means the long-term that I think everyone would agree would be renewable. The fact is, the fracking process is problematic for increases in gases that cause climate change.

Mr. Salkeld, are you aware of studies lately that have talked about methane releases, particularly the study recently published in the *Proceedings of the National Academy of Sciences* of the United States of America by S. M. Miller et al that says that the methane releases from this extraction technology are enormous?

**Mr. Mark Salkeld:** I'm aware that there are a number of studies going on across Canada and North America. We're actually supporting one through the University of Calgary that is directly related to greenhouse gas emissions with respect to hydraulic fracturing. That study is just getting under way.

I support your comments with respect to renewables, but I also am a realist, in the sense that we are not going to get to renewables without first meeting the demands of energy supply today, which is natural gas. There is a cost to get it out of the ground, without a doubt, but in the long term that's what we're going to have to go with eventually to get to renewables.

**Mr. Jamie Nicholls:** We've talked about in the short terms that natural gas won't answer the energy crisis in Ukraine. To be realistic, researchers at Stanford and the University of California recently did a two-part study on energy policy. They found that 90% of the world could be powered by renewables, and all that is required to make this changeover is political will. Now, with everyone around this table, the politicians and policy-makers, if there were the political will, it could be done.

For the long term, I believe that's what we should be focusing on. Looking at it in the short term, we won't answer this energy crisis that's going on because of the investments required. An LNG terminal costs up to \$7 billion. If you're not going to get market prices by supplying somewhere like Ukraine, that's going to require considerable subsidy from government.

Is it not the case that the gas sector, in order to provide a lower price, would require subsidies from governments?

Mr. Sorensen.

**Mr. Alfred Sorensen:** I think that would be the case of Ukraine, but it's not the case for us or it's not the case of the European Union. In all those cases, energy is priced at the margin. Certainly that is the problem that Ukraine has today, in that Russia uses economic power through the pricing of natural gas. There is no doubt about that. That is the problem, and that's not going to go away any time soon. There's certainly no simple solution, as you've heard already, that could change it overnight.

As I said, a few weeks ago when we were in Germany, Chancellor Merkel was very adamant that in the last 60 years, Europe has been complacent over its dependence on Russia and that it's something that needs to change.

When you look at renewables as the answer, Germany is a very good market to look at. They use renewables probably more than any developed economy. Without fossil fuels or nuclear to balance out the load, they would have serious difficulties.

I think it's very naive to think that solar and wind are going to power an earth that has six billion people on it. It's just not realistic. Even Germany itself is finding in its experiment with renewables that they're still a long ways from a scenario where fossil fuels will not be part of the solution.

• (1015)

**The Chair:** Thank you.

Thank you, Mr. Nicholls.

We go now to Mr. Opitz, followed by Ms. Duncan and Ms. Block.

Go ahead, please, Mr. Opitz, for up to five minutes.

**Mr. Ted Opitz (Etobicoke Centre, CPC):** Thank you, Mr. Chair, and thank you for allowing me to be here.

*Dzien dobry, drodzy przyjaciele z Polski. Bardzo sie ciesze, ze jestesmy dzisiaj razem.*

Congratulations on the canonization of Pope John Paul II. I know that's a tremendous achievement in Poland today.

A lot of this conversation is focusing on energy security, and Mr. Chair, I appreciate your comments at the beginning.

There are three intersecting circles that have constantly been coming up in this conversation. They, of course, are natural resources, defence, and foreign affairs, which seem to have arrived at a crossroads here.

We've talked a lot about energy security, and Poland had a model, by the way, that my father fought by in the Second World War: *Za Nasza i Wasza Wolnosc*, which in English means "For our freedom and yours".

I think that a lot of this discussion focuses on energy security and the ability to supply our allies with stable sources and supply of energy. In Ukraine, a lot of the issue has been the unpredictable supply of gas and the unpredictable pricing structure that Gazprom has put in.

As we recall, when President Yanukovich rejected the EU deal, all of a sudden as a reward Putin lowered the price significantly and now has arbitrarily raised it again. Part of Ukraine's problem is that there is political interference in terms of being able to subjugate them through price controls on Gazprom. That, of course, affects everybody in Central and Eastern Europe, which has become a problem.

Perhaps I'll start with Mr. Langrish. What would your view be, sir, on an east-west pipeline in Canada not only being able to supply our own energy needs but clearly being able to supply the energy needs of our allies through a safe, stable, fairly-priced commodity product like gas or even oil?

**Mr. Jason Langrish:** Yes, in terms of the east-west pipeline, you're talking about oil. This is primarily used as a transport fuel.

As I've said, within the EU, certainly there is a possibility. The EU imports oil and gas in significant quantities, so there is the potential. However, the question is unresolved as to how that fuel source will be treated within the EU because there is a debate that's ongoing that could have legal ramifications, which is that the products derived from the oil sands within the EU could be treated as different from bitumen that's derived from other sources that are deemed to be less carbon intensive.

If the EU decides to stay neutral, or they decide, for instance, to relax the debate on this issue, then there would probably be quite a market for this product. However, if they go in the other direction and they implement the fuel quality directive—I don't think they will, but if they did—it would make it more challenging. In all likelihood there would be a carbon tariff or a penalty you'd have to pay unless you could offset that through the production of other sources of energy that don't have emissions.

• (1020)

**Mr. Ted Opitz:** I have to stop you there if I may because I only have a couple of minutes.

**Mr. Jason Langrish:** I would just say that if that policy goes in place—

**Mr. Ted Opitz:** I'm sorry to be curt. I only have a couple of minutes left, I think.

I want to direct that question then to Poland because I think they might have a different view simply because Poland has done quite well in comparison to Ukraine in the same period of time. It is coming up to the 25th anniversary of their first free election. Poland's economy has grown four times that of Ukraine because of, I think quite frankly, better governance and the absence of the type of corruption that you've seen in Ukraine.

In Poland, what would your view be about Canada's ability to supply safe, stable, well-priced energy products from Canada, and clearly our ability to produce and transport it across the country safely?

**Ms. Anna Barbarzak:** I will try to detach the two parts of the question because, first, you're right about the issue of the pace of the dynamics of the developments in Ukraine and in Poland in the energy sector. When you compare Poland and the Ukraine 20 years ago, we were moving from comparable situations. We were also highly inefficient with infrastructure that needed to be modernized and we were ahead of the entire system of multilateral changes and reforms that were quite painful, especially for some participants of the energy sector. There are challenges ahead of us, but certainly we have made significant progress, especially when you look at the two countries.

I would say that the conviction that you can make a change and the appropriate management of the entire reform process is key to the

success of this exercise, of this effort, and this is what we have to look very carefully at in the case of Ukraine so that we can assist Ukraine in supporting these reforms and the modernization challenge. I'm rather certain and I'm quite optimistic about the role of Canada in ensuring and enhancing the energy security of Ukraine and of Europe, and should I have any more time I'll probably develop this topic. We are very optimistic about it.

Thank you.

**The Chair:** Thank you very much.

Thank you, Mr. Opitz.

We go now to Ms. Duncan for up to five minutes.

Go ahead, please.

**Ms. Linda Duncan:** Thank you, Mr. Chair.

This is a very interesting discussion. I want to thank you in advance, if I don't get a chance after, for all of you appearing, especially those out west in Alberta because it's earlier for you.

Having heard the testimony from the Polish delegation, I'm wondering if I can go back to our Canadian industry sector. I'm wondering, Mr. Langrish, in the Canada Europe Round Table for Business, do any of your members include the energy efficiency renewable power sector or is it only fossil fuels?

**Mr. Jason Langrish:** No, and very few companies are only in fossil fuels anyway. They tend to have diversified portfolios that also have renewable energy arms. Our members are across the board so they range from everything. We would have companies that provide turbines, companies that are involved in building LNG facilities, companies that build wind farms, and companies that build bridges—you name it—so it's across the board; it's all forms of energy production.

**Ms. Linda Duncan:** So you do have a good number of the members of the corporations in the wind. Do you have members in the solar sector or energy efficiency sector?

**Mr. Jason Langrish:** They would have solar. They would have subsidiaries that would be involved in the development of solar power, yes.

**Ms. Linda Duncan:** The independent corporations are focusing on that.

**Mr. Jason Langrish:** But the thing is...

**Ms. Linda Duncan:** I'm just curious because this is news to us. We weren't aware that there was a delegation of business people who went with the government over to address these issues. I'm just kind of curious.

Mr. Sorensen, you spoke about being part of a delegation to Germany that also met with their leader Merkel. It's my understanding, from a lot of presentations by German delegation, that they're actually being very successful and they've decided to get off fossil fuels and move majorly to wind and solar.

I'm wondering if, in your delegation, it included Canadians who are experts on energy efficiency, and not just more efficient extraction but also efficient use, either by industries, small business, or housing.

• (1025)

**Mr. Alfred Sorensen:** I never selected the people who went. I think there was a variety. There were only 25 or so people, and they were from manufacturers in the auto industry and aeronautics—quite a broad range of individuals. I think I might have been the only energy person who was there, to be honest. I don't quite remember. I do think that the principal reason I was invited was that we had already done the significant transaction with Germany and, if you look at the value of the transaction we put together, it's roughly \$45 billion, so it is a fairly large transaction.

**Ms. Linda Duncan:** Thank you. I'm simply following up on that because clear interests were expressed by our delegation in Poland, recognizing that that is something that Europe is pursuing and that we certainly have fantastic enterprises in Canada that could also offer that expertise.

I would like to go back to our Polish witnesses. I understand that you are close to completing your LNG facility and that you do have a contract already, I think with Qatar, but that you were also looking for additional suppliers. Have you already signed additional contracts? Are you pursuing them? Can you give us a vague idea if you are getting close to completion of a supply channel from other sources?

**Ms. Anna Barbarzak:** I will let Mr. Cios give you a little bit more details on that. We have a contract with Qatar, which I will let Mr. Cios speak about.

**Dr. Stanislaw Cios:** The contract with Qatar is for roughly 1.5 bcm annually for 20 years.

Currently the Polish companies do not have any contracts for supplying LNG in the coming year or so.

The terminal itself will be finalized as regards the construction by the end of this year. It will probably become operational after the preliminary tests sometime in the spring next year.

Of course, the companies that are interested in distributing natural gas on the market will make a detailed analysis of the market with a view to buying gas from suppliers other than Russia or Qatar in the future. But since the import possibilities from Canada or the United States right now are limited by the fact there are no facilities that can export LNG right now, no decision has been made yet regarding the future supply of LNG to Poland.

Thank you.

**Ms. Linda Duncan:** Thank you very much.

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

We go now to the parliamentary secretary to the Minister of Natural Resources, Ms. Block, for up to five minutes. Go ahead please.

**Mrs. Kelly Block (Saskatoon—Rosetown—Biggar, CPC):** Thank you very much, Mr. Chair.

I join my colleagues in welcoming all of you to this committee and this study that we are doing. It has been an excellent morning and I've appreciated all of your testimony.

Our government understands the importance of diversifying our markets. I believe this is demonstrated through our responsible resource development plan that fosters a stable investment climate by implementing fixed timelines for project reviews and streamlining the regulatory process to reduce duplication.

We have also made significant investments to ensure that we will continue to benefit from Canada's vast natural resource endowment. All of this I believe positions us very well to take advantage of international market diversification opportunities. I note that both Ms. Barbarzak and Mr. Langrish have highlighted the opportunities that we have to diversify our markets. You've done very well in putting into context all that's been put into place in our relationship with the EU. Ms. Barbarzak, you've also alluded a couple of times to your desire to be able to speak a little bit more to the opportunities, the optimism, and certainly what you think should happen in the short term to address energy security for the EU.

I'm wondering if both Mr. Langrish and you, Ms. Barbarzak, could comment on that.

• (1030)

**The Chair:** Maybe we'll start with Mr. Langrish.

Go ahead, please.

**Mr. Jason Langrish:** Just as I said earlier, it depends on the energy source you're talking about. As an example, some economies in Europe are using a lot of renewables, but the baseline energy, the baseload, could very well be coal power or nuclear energy being fed in from France. So, there are a million different ways in which you can provide energy. That's the first point.

The second one is that the commercial relationships, the ties, and the architecture are there to facilitate this. The infrastructure is probably not in place, but the architecture, the investment rules, and the abilities to move skilled people back and forth and to protect intellectual property—all of those kinds of things stimulate business between the two sides.

However, the energy security piece is still unclear to me. I really don't know where it's going to happen. It seems as though it's going to be very challenging to help Ukraine directly with its energy security, especially considering that the economic climate seems to be going in the opposite direction right now. But let's say there's a possibility there. Certainly Canadians are well placed to do it, but it's just a question of what kind of environment is in place.

The other piece, in terms of feeding into western Europe, is that it's a question of their outlook on our energy, for one thing.

The other thing is that I was part of the business group that was over in Europe with the Prime Minister. For instance, when talking with the Germans about their relationship with Russia as an energy supplier, I didn't get the sense that they're overly concerned about it. They have a stable long-term relationship. I think the real issue they have is that because western Europe is so reliant, to a degree, on Russian resources, they're limited in how they can respond to other geopolitical issues. So, that's their conundrum.

But if you're looking directly at the energy security piece, I don't see alarm bells there. There's no concern that Russia is not going to live up to its terms. So this energy security piece is really more an issue of concern for eastern Europe and Ukraine—

**Mrs. Kelly Block:** Thank you.

**Mr. Jason Langrish:** —and I'm not really sure how we get there.

**Mrs. Kelly Block:** Thank you.

Ms. Barbarzak.

**Ms. Anna Barbarzak:** I'm not sure if I understood your question right, but when we're talking about energy security, we are at the stage now in the European Union that the situation in Ukraine has stimulated internal EU discussion on how we can be more effective in achieving the goal of energy security when we have almost 30 nations altogether with different energy mixes, which all reserve the right to create their own energy policies.

Following recent developments, our prime minister has proposed a set of suggestions and recommendations on how we can build upon the energy and on our cooperation so far and how we can strengthen our efforts to build energy markets in Europe.

If you are interested, there are six points in this proposal that was introduced by our prime minister. I can present it to you, but I'm not sure if that's the question.

I'm a little bit confused here.

**The Chair:** Okay, your time is up, Ms. Block. Thank you for your questions.

If you'd be willing to email the committee the six points, that would be appreciated.

•(1035)

**Ms. Anna Barbarzak:** Absolutely, yes I will.

**The Chair:** Thank you.

We continue our questioning with Mr. Nicholls and then finally with Ms. Crockatt.

Mr. Nicholls, go ahead, for up to five minutes.

**Mr. Jamie Nicholls:** Thank you, Mr. Chair.

My question will be for Mr. Langrish, Mr. Salkeld, and Mr. Sorensen.

Are you aware of Bill H.R. 6, introduced in the American House of Representatives on March 6, 2014, which seeks to fast-track approvals for LNG terminals in the United States? Can you comment on how much of the attention being given to energy security in Ukraine and Europe is related to what's happening in Washington and a concern that the Canadian supply of gas is being pushed out of the LNG market by the Americans?

**The Chair:** Who would you like to start, Mr. Nicholls?

**Mr. Jason Langrish:** I think Alfred should go.

**The Chair:** Go ahead, Mr. Langrish.

**Mr. Alfred Sorensen:** I'll go first.

**The Chair:** Okay, Mr. Sorensen, go ahead.

**Mr. Alfred Sorensen:** All right.

Well, certainly I saw that with the U.S. side. It's an important part of my business to understand what's going to affect us.

I think within the United States there are two issues. Where the gas is and how it can get out of a country are two things. There might be a political angle to this whole thing. Both our countries have infrastructure issues in trying to export LNG. I think those are good statements that are being made to perhaps show Russia that they're serious. Certainly there's a window of opportunity, and how Canada reacts to that window of opportunity certainly is.... I think we are. I don't see it's a threat to Canada one way or the other. Both countries operate on a commercial basis. I think it's trying to set an environment in the United States that's more friendly to development. Canada is already there, so I don't really think that's a big issue.

**Mr. Jamie Nicholls:** Mr. Langrish.

**Mr. Jason Langrish:** I'd just add that it is commercially driven. I'm not so sure it's an energy security piece. It's basically just getting this product out to international markets so it's not sitting at \$4.

But, by way of background, generally speaking in the United States you can't export oil or gas to a country unless you have a free trade agreement with that country. It's very difficult, and that's why they're taking this alternative approach. For a lot of these markets they're looking to sell this gas to, they don't have free trade agreements. They need to have other legislative requirements in place, and that's what they're doing with this bill so that they can export.

**Mr. Mark Salkeld:** Respectfully, I'll pass on that question. It's outside my area of expertise.

**Mr. Jamie Nicholls:** I'll give the remainder of my time to Mr. Benskin.

**The Chair:** Go ahead.

**Mr. Tyrone Benskin (Jeanne-Le Ber, NDP):** Thank you.

I don't speak a word of Polish, but welcome to the Polish delegation, and welcome to the Canadians giving testimony. It is much appreciated.

To our Polish witnesses, you touched on the issue of energy inefficiency, and your colleague Mr. Kijewski had mentioned that one of the issues around energy inefficiency was the low pricing.

Can you elaborate a little more on what other issues are contributing to such a low energy efficiency rate in the Ukraine. What were the steps that you took in Poland to help improve yours?

Thank you.

**Ms. Anna Barbarzak:** Well, we're talking about prices, but I get an impression that energy efficiency needs to be approached in a more comprehensive way. If you are looking at what is happening right now, a number of organizations have pointed out the need to increase and to work toward energy efficiency improvement in Ukraine. A lot of efforts are being made by [*Inaudible—Editor*] and different constellations of cooperation for Ukraine.

My understanding is that there is going to be a comprehensive strategy toward energy efficiency projects in Ukraine that will help develop the entire regulatory framework needed for the energy efficiency projects being carried out, and that it will create the investment climate for private sector to carry out the projects needed to increase energy efficiency there.

I would say that these two elements are key to the success of the entire exercise of energy efficiency projects in Ukraine.

• (1040)

**The Chair:** Thank you.

Thank you, Mr. Benskin and Mr. Nicholls.

We go finally to Ms. Crockatt, for up to five minutes.

Go ahead, please.

**Ms. Joan Crockatt (Calgary Centre, CPC):** Thank you very much again to all our witnesses here today. I apologize that I wasn't here for the first part, but it seems to have been fascinating.

We're investigating today and it seems increasingly clear from the testimony we've heard that Canada has the product, the technology, if not yet the infrastructure, to help Ukraine lessen the pressure that Russia is exerting on it as its primary supplier of gas, particularly by raising gas prices. I think the last story I read said gas prices have gone up by 81% in recent weeks. In fact, *The Globe and Mail* filed a story 36 minutes ago about Gazprom saying that its gas exports to Europe could be disrupted. It's not clear whether this is as a result of or as a response to western sanctions. I think that does put Europe in a slightly precarious position.

Mr. Langrish mentioned that the architecture is there now, the rules are there, and Canadians are well-placed to be able to supply gas to Europe. I think it's sort of a timeframe issue and we're trying to narrow down where we have benefits and where we may have challenges. I'm wondering if I can ask Mr. Sorensen, first of all, then Mr. Salkeld.

**The Chair:** Mr. Salkeld has left actually. He indicated he was going to leave early. Go ahead.

**Ms. Joan Crockatt:** Okay, sorry.

Mr. Sorensen, maybe I can ask you then. How close are we to actually being able to supply Poland, and is there infrastructure that we can currently use, however creative we might need to be? We've just heard that Poland is going to have an LNG terminal by spring. How close are we to actually being able to supply Europe with Canadian gas and is their infrastructure ready to utilize it?

**Mr. Alfred Sorensen:** I would say we are not close at all. If one of the west coast terminals, say, were to begin construction in 2014, the end of 2019 would probably be the earliest. Our terminal is coming on in 2020. We have to remember that Canada has depended on the United States for our exports since the gas industry began to grow 15 years ago. There is no infrastructure in place. There's not that much infrastructure in the United States in place to export natural gas outside of the liquefaction terminal in Alaska, but that's not connected to anything. So North America has been an island. It remains an island, and it will remain an island, probably until 2017, and maybe 2018 at the most. Certainly, as a short-term solution to

the issues that are going on currently in Ukraine, most of it, I would say today, is about cheering them on, but there's really not very much to be able to be done in the short term, or even the medium term for that matter.

**Ms. Joan Crockatt:** What if we look at the west coast as a possibility? I understand that it's probably not the preferred one, but are there any other creative things we can be looking at? I think we've heard that we have world-class operating procedures in Canada, that very few oilfields around the world have been developed without Canadian expertise in one fashion or another. We're a leader in the world. How can we help? Can you see any creative ways in which we could help?

**Mr. Alfred Sorensen:** Well, I think that companies like RWE, as I mentioned earlier, is now trying to find way to bring gas into Ukraine through the Black Sea. We simply don't have any of those kinds of resources at our disposal. Obviously, crude oil is a much more fungible commodity that can be moved much more easily.

One of the fundamental problems is that the Ukraine doesn't pay for its gas. That's one of the big complaints Gazprom has, or they use that as one of their complaints. So I think it's going to be very difficult. As you heard Mr. Salkeld say earlier, Ukraine is a very difficult environment for most Canadian companies to deal in. People can try to do stuff, but I think in the short term, because the nature of our energy industry is one where there's very little government control outside of owning the resource—the provinces own the resource—I think it will be very difficult to see anything in the short to medium term, because we operate on a commercial basis and it would be very difficult to try and get transactions in place.

• (1045)

**The Chair:** Ms. Crockatt, your time is up.

**Ms. Joan Crockatt:** Thank you very much.

**The Chair:** You have a point of order, Ms. Duncan?

**Ms. Linda Duncan:** Yes. I think this is just a two-day study, so I'm just wondering if we're planning to hear from Ukraine on Thursday.

**The Chair:** In terms of the witnesses for Thursday, no, there is no one from Ukraine. Thank you for the question, Ms. Duncan.

Thank you to all members of the committee for your questions and comments.

Thank you especially to the witnesses, both from Canada, with us by video conference, and from Poland, also with us by video conference. That was excellent testimony to start our review.

To the Canada Europe Round Table for Business, Mr. Langrish; the Petroleum Services Association of Canada, Mr. Salkeld; the Pieridae Energy Ltd., Mr. Sorensen; and the Ministry of Foreign Affairs of the Republic of Poland, Ms. Barbarzak and all of the others, we really do appreciate you being with us to provide the information that will be helpful to us in this study, whether it be a two-day study or whether it be extended from that. Thank you very much.

The meeting is adjourned.







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