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Chair

Mr. Leon Benoit

Standing Committee on Natural Resources

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● (1105)

[*English*]

The Chair (Mr. Leon Benoit (Vegreville—Wainwright, CPC)): Good morning, everyone. It's good to be back again.

We have, in the first hour, a witness on our study. In the second hour we will deal with future business of the committee. Some discussion on that started at the last meeting, and we'll continue that.

We have with us today Michael Binnion, who is president of Questerre Energy Corporation. Thank you very much for coming. We had a long list of witnesses who were asked and just couldn't accommodate us right at this time. Many are coming later. So we really do appreciate your being here today.

If you could start with your presentation for up to 10 minutes, we'll then go to questions and comments from the members. I know you've given us a brief, but the presentation is in one language and the other information in another. We have to get them translated before we can circulate them. So they will be circulated later, through the clerk.

Go ahead, please, Mr. Binnion, for up to 10 minutes.

[*Translation*]

Mr. Michael Binnion (President and Chief Executive Officer, Questerre Energy Corporation): My name is Michael Binnion and I am the President of Questerre Energy Corporation. I would like to thank you, Mr. Chair and all members of the committee, for inviting me to speak to you today.

Questerre's main focus is our Utica Shale Gas discovery in the St. Lawrence Lowlands of Quebec where we have been working since 1998.

There are various public estimates of the Utica shale gas discovery that suggest that the entire discovery is in the range of 25 to 50 trillion cubic feet of gas, which would put it in the top 10 natural gas discoveries in North America.

[*English*]

For the past 20-plus years I've been an entrepreneur involved in start-up and turnaround ventures in Canada and internationally, primarily in the energy sector. I have the perspective of someone who's been on a rig, at the control panel for a frac operation, at a compressor site, and a meter station, someone who knows the practical application of engineering, geophysics, and geology, and who risks his own money on the outcomes.

Formerly I was president and founder of the first western company in the Republic of Georgia after the civil war, working on their first hydrocarbon legislation, and with the international finance corporation. Now I'm immersed in the politics of shale gas in Quebec.

Today I hope to combine these perspectives to discuss the impact of shale gas on energy security, on the potential for regional economic benefits, and where there is room for the federal government to play a role.

The gas age has begun. The impact of shale gas on world markets has been enormous. In 2008 North America was running out of natural gas, and the price was well over $10 per thousand cubic feet, or $60 per barrel on an energy equivalent basis, and predicted to be much higher.

North America was expected to be competing on world markets to obtain significant quantities of liquid natural gas, or LNG. Several projects were at late stages of approval for LNG import terminals, three in Canada—Rabaska, Cacouna, and Kitimat. European headlines were about Russia's stranglehold on Europe's gas market and the political impacts it might have. China was signing long-term contracts to tie up world LNG supplies.

Only two years later the price of gas is under $4 per Mcf, or less than $25 per barrel on an energy equivalent basis. All LNG import terminal projects have been cancelled. Kitimat has converted to an export terminal for Asian markets. European headlines are about how Russia is worried about maintaining market share. In Europe, China is still tying up world supplies of LNG.

Today shale gas provides close to 10 billion cubic feet per day of North American demand. As a result, North America competes for a minimal amount of LNG on international markets. Prices in Europe and Asia are starting to become linked, due to their competition for the same supplies of LNG. The price in Britain is now about $7 per Mcf, with Asia being somewhat higher.

The inference is the benefit to consumers of shale gas in North America is not only security of supply but also a price at least $3 per Mcf lower than international markets. However, there's an even bigger advantage in international markets, although more difficult to quantify. We can only speculate what the international price would be if North America was competing for as much as 10 Bcf per day of LNG imports, when current total worldwide capacity is only 27 Bcf per day.

While the world was preoccupied with the financial crisis, the natural gas business was creating a new paradigm in world energy. I believe the technological innovations that allow us to extract natural gas from source rock are having as big an impact as that of Rockefeller learning how to refine oil at the turn of the last century.

That change created an oil glut, ironically almost bankrupting Standard Oil at the time. But it led to a century of growth based on a cleaner and more affordable energy, just as coal had done a century before. Shale gas can do the same this century, fueling over a billion people's aspirations to join a western standard of living, without threatening energy security in North America.

What are the opportunities and threats to the emergence of a natural gas age?

In terms of opportunities, one, with its abundant unconventional gas resources, Canada could become a world leader in a natural gas-fuelled economy. There are opportunities to expand natural gas use, such as a trans-Canada green highway, starting with Quebec to Windsor—city fleet and public transportation vehicles fuelled by natural gas; fuel switching for heating, industrial uses, and power generation from higher emission sources; and LNG export terminals to supply world needs for affordable and cleaner fuel. Given that natural gas currently trades at about one-third the price of oil, the capital required can be repaid from energy savings; it's a subsidy-free energy solution.

Two, emerging shale gas developments in eastern Canada bring the possibility for a locally based onshore service sector. The oil and gas service sector is currently concentrated in western Canada and is the main delivery point for technological advances, employment, and widely distributed economic benefits associated with the oil and gas industry. Having a service sector based in eastern Canada could deliver these same types of benefits.

We have provided you a briefing paper focusing on economic benefits that this industry could bring to Quebec.

In terms of threats, one, there is a general lack of public awareness about shale gas development, particularly in provinces without a long history of development of hydrocarbons. The techniques and processes, including hydraulic fracturing, are currently used in essentially all natural gas wells drilled in North America. However, it is still new for some of the regions where we've recently discovered shale gas. Social acceptability hinges on the education of the public at large about the real risks and benefits.

● (1110)

Second, it is our observation that the debate about shale gas has been framed thus far by political lobbies associated with competing fuels—such as coal and subsidized energy—that view natural gas as a direct threat. With new media, a U.S. political debate has permeated the Canadian one. In material respects, we do not believe this has served the interest of familiarizing the public with the natural gas industry.

Third, there is a first-mover disadvantage to funding the cost of new infrastructure required for natural gas. As common carrier pipelines and facilities, they will need to be regulated to allow many parties to use them. But first movers are disproportionately burdened with the costs and risks, and this delays necessary investment to promote adoption of this cleaner fuel.

These are our recommendations for the federal government.

Since the federal government does not have a jurisdiction over provincial resources, there is a role to be played as an honest broker to research and inform the public about technical risks and procedures involved in the shale extraction process. A successful example of this was the participation by Natural Resources Canada at the Munk Centre conference on the impact of shale gas on water resources.

Another recommendation with respect to the federal government's role in interprovincial and international commerce is to support the construction of natural gas infrastructure. It is unlikely the private sector will be able to advance major projects for public infrastructure on its own.

Finally, we encourage the federal government to take advantage of recent events in the United States and abandon the idea of cap and trade. As seen in Europe, this system will result in political decisions about emissions credits and inevitably favour entrenched industries, which in a North American context means coal. The market has done a good job of delivering consumers the energy they demand, but to the extent that public policy imperatives require it, a carbon tax will be less distorting and more effective in encouraging consumer choices that reduce emissions.

Once again, I thank you for the opportunity to present these ideas. I hope they have been of use to your committee, and I welcome any questions.

The Chair: Thank you very much for an excellent presentation, which gave a good outline I think for us to start from when it comes to dealing with shale gas.

We will go directly to questions.

Monsieur Coderre, for up to seven minutes. Go ahead, please.

[*Translation*]

Hon. Denis Coderre (Bourassa, Lib.): Thank you, Mr. Chair.

Mr. Binnion, thank you for taking part in this exercise. You must have certainly attended some of the meetings on the shale gas issue in Quebec. One thing is certain: we are trying to understand and we want to respect the areas of jurisdiction. I would like to thank you for providing us with some solutions. We will talk about them more later.

Could you first tell me whether you are fairly familiar with the British Columbia model?

[*English*]

Mr. Michael Binnion: The British model for regulations or royalties...?

Hon. Denis Coderre: British Columbia.

Mr. Michael Binnion: British Columbia, yes. We have a project in northeast British Columbia, so we operate under the British Columbia model.

[*Translation*]

Hon. Denis Coderre: All right. I imagine those people did their homework on the legislation. Are there similarities between Quebec legislation and legislation in British Columbia? In Quebec, this issue falls under the Mining Act. There is no legislation on hydrocarbons. Is there any in British Columbia?

[*English*]

Mr. Michael Binnion: Yes. I am going to turn that into two questions, if I might.

The first is that in Quebec, while the law affecting hydrocarbons is part of the Mining Act, there are separate clauses in the legislation and something like 30 pages of regulations specific just to oil and gas.

The model in Quebec has been designed for exploration because there really hasn’t been any production of any note. So it's a system designed just for exploration. It's been extremely effective in Quebec for that purpose, and the proof is that we have been exploring for 30-some years in Quebec and people didn’t even know we were there.

In British Columbia, that industry is much more developed. The system there, the Oil and Gas Commission of British Columbia, was first incorporated sometime around 1980. So they've had quite some time to develop, and it is a more advanced model, because, of course, it's designed for exploration and production. I would agree that it would be a good model for Quebec to follow.

● (1115)

[*Translation*]

Hon. Denis Coderre: I am a federal MP. If I was a provincial MLA, you and I would probably not be using the same tone this morning. But I will be respectful of provincial policy. Unfortunately, I think that the discussions between the industry and the people were an abysmal failure. Disgraceful actions have been taken. I am not talking about you, but about some drilling companies in particular. We can speculate about international prices, but I don't think we should speculate about people's quality of life, even if there is compensation. But that's a different story.

I would like us to look at the Canadian government's role in more detail. I don't want to talk about funding. Quebec made a social choice and we shouldn't go there. There are already other issues like that. I would rather talk about the role of the National Energy Board.

I did not hear you talk about environmental assessments, which are now part of the board's responsibilities. To your knowledge, have there been environmental assessments on the impact of shale gas in Quebec specifically?

In New Brunswick, the situation is currently the same.

[*English*]

Mr. Michael Binnion: I know that at the Munk Centre the representative of Natural Resources Canada mentioned that they had done internal studies on the full life-cycle impact of natural gas on CO_2 emissions, as an example. In terms of my personal awareness, that would be the only thing.

[*Translation*]

Hon. Denis Coderre: Last Sunday, I watched the show *Découverte*, which was rather disturbing. We still have the Pennsylvania example and Talisman's situation, among others.

You need a huge amount of water to collect the gas. How can you reassure us that the extraction of shale gas, particularly in Quebec, will not cause damage to our water table and contaminate the water? There is some sort of impact. People need to be reassured, but they especially need to understand what is going on.

[*English*]

Mr. Michael Binnion: Our company has published a fact sheet on water use in shale gas in Quebec. It is on our web page at Questerre.com.

Just to give you a quick summary, we believe that in full-field development at approximately 400 wells per year, which is about the higher end of the range that has been predicted for Quebec, we would be quite a light industrial user of water, using approximately three billion litres of water per year, which would be less than car washes in Quebec, which would be maybe 20% of the water that the city of Quebec loses just through its leaky pipes. It is less than 1% of what agriculture uses. It is less than 1% of what pulp and paper uses.

I understand that when we are talking to people and say we are using 12 million litres of water, people imagine it to be a huge number. It is hard to grasp what the number really is. But in an industrial context, it is actually a small amount of water and will be barely noticed, if at all, on the Quebec water table. MDDEP has already put in regulations restricting us such that if there are local areas of shortage of water, we would be restricted in how much we take. I don’t expect that in the lowlands that would ever be a problem.

In addition, to put it into another context, we have calculated the amount of water it takes for one well and compared it with how many homes the gas from that well would be able to heat or service in one year, if you are on natural gas service. The amount would be less than one litre of water per year per home in Quebec, compared with the current usage in Quebec of 360 litres per home.

[*Translation*]

Hon. Denis Coderre: You have to recycle the water and treat it. There are two possibilities: you can reach an agreement with those in charge of the treatment wells... As to the existing municipal infrastructures, that's another story, and I am not sure that's the right thing to do.

There is no need to panic. We are talking about exploration and not extraction. Does your company intend to put in place its own water treatment infrastructure? Are you planning on doing that?

[*English*]

Mr. Michael Binnion: We expect that in full-field development we would recycle an amount approaching 100% of the water in Quebec. Just to help put that into some context, every shale has a different mineralogy and every shale therefore has a flowback water that will have a different mineral and chemical content. When you read, in North American contexts, about the flowback water, it is important to understand that it is local to the shale you are talking about.

I have seen that in northeast B.C. people are looking at treatment facilities, because of the amount of solids that come back in that water. I am not personally familiar with it; I have just read about it.

In Quebec, I am personally familiar with the tests of the flowback water. One of those tests was submitted in the Quebec Oil and Gas Association memoir to the BAPE, as an example. All of them are submitted to treatment facilities and to MDDEP, but the flowback water in Quebec, because of the mineralogy of the Utica shale, is very clean. It would actually meet the standards for storm water, if it weren't that it is too high in salt. This makes it a very easy water to recycle, because the salt is actually a positive contributor to not damaging the shale formations.

We fully expect that we'll be very successful in recycling, but I would mention that right now, because we are just in the exploration phase, we are only drilling one well at a time. You can't recycle the water to the next well, because we are only drilling one. That would apply when we are drilling more than one well at a time.

● (1120)

The Chair: *Merci, monsieur Coderre.*

We'll go to Madame Brunelle for up to seven minutes.

Go ahead, please.

[*Translation*]

Ms. Paule Brunelle (Trois-Rivières, BQ): Thank you, Mr. Chair. Good morning, gentlemen.

Where are the headquarters of Questerre Energy Corporation?

[*English*]

Mr. Michael Binnion: It's in Calgary.

[*Translation*]

Ms. Paule Brunelle: I checked where you operate in Quebec. I believe your largest exploration site is in Saint-Jean, with 181,000 acres close to the U.S. border. In addition, you are partners with Gastem Inc. and your share is about 56%. You are also in the Yamaska region and elsewhere together with Talisman Energy. We can see that you believe in it. In any case, you have a presence in many places.

You surely must know that a great many Quebeckers are opposed to this. The regions that you are in and that I just mentioned are densely populated. It is farmland for the most part and there is not that much in Quebec. If I am not mistaken, it makes up 2% of the land area.

You are telling us that this will create jobs, but it seems to us that they will be low skilled jobs and the highly skilled jobs will go elsewhere in Canada. You are aware that the demand for gas is quite low and that people would much rather use green energy, such as hydroelectricity and wind energy.

We have also just talked about the use of water. We believe that this will cause damage to the environment.

My question stems from the fact that the price of natural gas is low. We are told that stocks are high in North America. They are 8% higher than the average in the past few years. What is your industry's real interest in positioning yourself to extract this gas? At first glance, it seems that you are looking at exporting it.

[*English*]

Mr. Michael Binnion: I drilled my first well in Quebec in 1989. We were not successful then, and that's when I went to the Republic of Georgia, as I mentioned. I came back in 1998 to try again, with the idea that we could find unconventional resources. So we've been at this now in Quebec for 12 years. We've been through a number of different economic and energy cycles in that time.

The real dream was to be able to find a big discovery of gas in Quebec and do something that would have an impact on energy independence for Quebec.

I would mention that Quebec is Canada's second biggest market for natural gas. It is a very large market, second only to Ontario. The local market is more than a big enough prize for our shareholders, although of course my shareholders are always asking me to do more, so export would be a possibility. I don't think export could happen for at least 10 years, and I think it's going to take us quite a number of years just to satisfy the size of the local market.

Concerning farming, one of the great things about the oil and gas sector in western Canada is just how well it mixes with farming, because we have a very small land print. People continue to farm. It's not as though we turn their farms into a factory and then they have to lose their farm; in fact, just the opposite. There are many examples of people on family farms having been allowed to stay on a family farm and keep farming because an oil and gas operation has come and has supplemented their income.

I think it has been extraordinarily successful as an industry in mixing well with farming, but also in spreading the economic benefits, not just in Calgary but also throughout the regions. That's why we think that in the lowlands it's going to be a very complementary mix to the current use of land there.

I admit that our education of people as to the potential benefits and how well we mix has not been as good as it could be. But I can tell you that when you examine the dozens and dozens of different types of jobs that are involved in oil and gas, there will be people in Quebec who can do those jobs today. We've been in communication with the CEGEP at Thetford Mines about training people. There are many jobs that in a very short period of time local people will be able to do as well.

I can tell you that to be profitable, because shale is a very high capital cost operation, we have to have local service and local employment, because it just won't be competitive to be flying people in from Calgary every two weeks.

● (1125)

[*Translation*]

Ms. Paule Brunelle: Quebec is definitely seeking energy security, just like everywhere else in the world. That is what we're looking for. But we don't want to be careless about the way we do things and we don't want to move too fast. When we talk about farmland, we talk about water. You said you use a small amount of water, but we must not forget that all sorts of chemicals are used to break up the shale. The people are worried. What is going to happen to our water? We see that there are many water treatment plants in Quebec that are not able to treat the waste water from the industry.

In light of this problem, are you planning on funding water treatment plants in the future or on giving significant compensation to the communities?

[*English*]

Mr. Michael Binnion: I agree that the biggest challenge we have in Quebec on the public relations front right now is this idea of water contamination. I have been spending a lot of time on the south shore. My objective has been to meet with every mayor on the whole south shore, and I have met probably about 50% of them at this stage.

The conversation in the last six months has changed a lot. The issue of frac chemicals is something that we have published. It has been transparent. All the journalists in Quebec have investigated it and found that we use a very small number of chemicals in shale gas, much less than the number of chemicals we use in conventional fracking. We have 300, 400, or 500 different chemicals that might go into a conventional frac. One thing that makes shale gas inexpensive and competitive is that we use so few chemicals, which is the irony, because people are more worried about it than about conventional fracking. Those kinds of issues don't seem to be top of mind anymore in Quebec. It is the water contamination from drilling and the potential surface spills that people are concerned about.

The other thing in terms of the water treatment issue—given that we have all the testing, given that we have already treated water at several treatment plants in Quebec—is that in my impression, it is more an issue of municipal-provincial jurisdiction. By not recycling the water, the municipalities are given some local control. That issue of jurisdiction between municipalities and provinces is not necessarily an argument we want to get into too much, but we think the issue of treatment in the lowlands is more about that than it is about the flowback water itself.

[*Translation*]

The Chair: Thank you, Ms. Brunelle.

[*English*]

Mr. Cullen, you have seven minutes. Go ahead, please.

Mr. Nathan Cullen (Skeena—Bulkley Valley, NDP): Thanks for being here.

The committee is engaged in a conversation around energy security. We are first of all trying to understand what that means. I think the term is thrown around a lot without necessarily lots of understanding.

As briefly as you can, could you first tell us how critical you think energy security is for Canada, and second, how you would define it?

Mr. Michael Binnion: I wish I were asking the questions.

I think that in a Canadian context we are part of a North American, or even world, energy security solution, because I just don't see how Canada has an energy security problem with abundant hydro resources, abundant oil, and abundant natural gas. It's hard to see how we have an energy security problem.

● (1130)

Mr. Nathan Cullen: So we don't have concerns over it, but since we have so much and since the U.S. needs so much, we're a supplier, obviously, and that's our role in an energy security conversation, from your point of view.

Mr. Michael Binnion: I think North America has an energy security issue, which is really to say that America does, and I think Canada has a role to play as a solution.

Mr. Nathan Cullen: Because we have talked about it in your answers so far, do considerations of environmental security come into it as well?

The word "liabilities" keeps coming to mind. You as a company deal with liability all the time, and you carry insurance for certain liabilities. The concerns that have been raised in relation to unconventional sources of oil and gas, particularly in the Quebec case, are around liabilities that are held not by the company but by the public. When you stake a claim and you withdraw a resource and then sell it on the market, what's left behind is often not....

For example, when you set up an operation and do a series of wells, are you bonded in that operation? Do you have to set up a bond in case your company falls on hard times and is unable to complete the process of cleanup?

Mr. Michael Binnion: On the bigger question of environmental security, I think that is true now for every industry. Some days I feel as though it's specific only to oil and gas, but it's true of every industry. If we're going to have a sustainable economy and sustainable development, we need industries that are going to mitigate their impacts, and no industry has no impact. I think that's true. When we're looking at oil, gas, and energy, we need to look at what are reasonable impacts and what's reasonable to mitigate them.

With specific reference to corporate liability for environmental issues, first of all, there's no jurisdiction that I know of in Canada that limits any company's liabilities. We have full liability, corporately, for any potential issues, whether it's loss of well control, environmental spills, or so on and so forth. We carry insurance, and regulations generally require us to carry insurance.

Mr. Nathan Cullen: Specifically in relation to the bonding, I'm trying to compare you a bit to the mining industry. We've learned through past experience that companies may start off with the best of intentions and all the rest of it, but things happen, so when a mine starts up now, we require bonds for most major mining operations in the country in order to carry off unforeseen.... They can be quite significant, but I don't think oil and gas operations have that—

Mr. Michael Binnion: But we are required to carry insurance, and we also post drilling deposits. We post drilling deposits and we are also required to carry insurance. Saskatchewan, Alberta, and B.C. have also developed an orphan well program, which is funded by industry. In effect, it's an industry-funded blanket insurance program. If some company is not financially able to meet its obligations, then there's an orphan well program to do so.

Mr. Nathan Cullen: That's helpful.

Around the question of fracking, you talked about conventional methane gas drilling that uses somewhere north of 500 or 560 chemicals in the fracking fluid itself—

Mr. Michael Binnion: Those are available chemicals. They are not necessarily all being used, but they are available to be used.

Mr. Nathan Cullen: Some of them are quite bad chemicals. You certainly wouldn't want to have them in your drinking water. They're carcinogenic. They have all sorts of things. You said you use a considerably smaller number of them.

The question has two parts. First, what is the number of chemicals you use in your fracking fluid right now? Are any of them carcinogenic, and do you make them public? Do you put the list out into the public?

This has been a challenge, because some companies have simply not been releasing the names of the chemicals being used, thereby causing public concern.

Mr. Michael Binnion: The number of chemicals we generally use is about 12. They're published on our website. Other companies have published them publicly as well. They're disclosed on our regulations sheets to MNRF in Quebec, for example. They are disclosed to the regulators. If you look at the Ground Water Protection Council's report, they have published them from state records, so these chemicals are not....

While some companies may not want to publish them to the general public for trade secret reasons, they are known to regulators, and some companies, like ourselves, don't even think it's a trade secret, so we've published them.

As for carcinogens, I don't know about being carcinogenic. I know some people talked about acrylamide, although we actually use polyacrylamide. All of them are in things in your household, though, whether they're cleaners, disinfectants....

I'm not trying to say that doesn't mean they're not toxic—we handle things like disinfectants carefully in our homes to make sure children don't get at them, and so on and so forth—but what I am saying is that they are chemicals that the general public is capable of dealing with safely in their own homes.

● (1135)

Mr. Nathan Cullen: I would say yes and no. The question and the concern around fracking fluids is that in the process you don't recover anywhere near 100% of the fluid that goes down the well. It's impossible.

Mr. Michael Binnion: Well, it's 50%, let's say.

Mr. Nathan Cullen: Yes. So half of it remains down the well, and it can be a significant amount of chemicals. I think it's an unfair comparison to say that they're in your home and they're in your disinfectant, simply because we don't take those chemicals under the sink and pour them into our drinking water. The concern that people have is that 50% of the chemicals are left underground, and sometimes in sources of drinking water. The concern around contamination is real, and I think you acknowledge it.

Is it not fair to say that contamination of drinking water is a concern for the industry? It's certainly a focal point of the public conversation.

Mr. Michael Binnion: But not in the way you say it. I'd actually say it's quite the opposite of what you just said on this narrow issue. I'm happy to talk about where there are risks, but you're talking about an area in which there really aren't any risks.

First of all, we're fracking one or two kilometres under the ground. We're taking gas that's been there for a few hundred million years without being able to get out because of the impermeable rock layers above it. Yes, that water is down, and yes, it stays there, but it's staying in a place that has been able to contain natural gas, a far more buoyant thing than water. I think the Ground Water Protection Council has published a report saying that the potential for that kind of water to reach the surface is less than one in 200,000,000, or something along those lines.

Mr. Nathan Cullen: But casings break. Not all of the chemicals make it all the way down. Some of them break along the way and accidents happen.

Mr. Michael Binnion: Just to finish the point, though, in terms of the chemicals in your home, you actually do literally pour them down the drain into the water supply. So in terms of a comparison, we're putting it somewhere where it doesn't get out, while people in their homes are putting it down drains into the water treatment facilities.

With respect to where the risks really are, the risks are really in terms of surface spills. Typically, when it comes back up to the surface, the risks are that ponds or tanks in different jurisdictions have leaks. The other risk is in the handling and transportation of the water, either the water coming or the water going. There have been issues in terms of potential groundwater contamination through the spilling of this frac water.

In terms of the system itself, when you're fracking down the pipe, if the pipe is not holding the pressure you stop fracking. It's tested before you frac, and it's a self-checking system, because if the pipe is in a contained system under high pressure when you're pumping down, then when you're coming up at much lower pressure, you know you're not leaking anything through the pipe itself.

The Chair: Thank you, Mr. Cullen. Your time is up.

Mr. Allen, you have up to seven minutes.

Mr. Mike Allen (Tobique—Mactaquac, CPC): Thank you, Mr. Chair.

Thank you, Mr. Binnion, for being here today and for your presentation.

Just picking up on a little bit of where Nathan was going with this, are there any regulations in place, or any rules of thumb, in terms of separation from where you're drilling and fracking, as opposed to the proximity to any aquifers?

Mr. Michael Binnion: Yes. In Alberta, regulations were put in place after an incident in Rosebud, Alberta. It was believed that some shallow fracs in coal bed methane had interfered with groundwater. Since then there have been limitations on how shallow you can carry out fracs in that jurisdiction.

In terms of good oil field practice, there are also a lot of different calculations around the planning of the frac inside good engineering practices to make sure it's contained where you want it to be.

Mr. Mike Allen: Over the last number of years, when you look at the fracking process and the technology and the use of chemicals, how has that changed? It seems to me there have been quite a number of changes over the last number of years in the use of chemicals. In your view, how has the technology improved? Have you seen a reduction in the amount of chemicals used for vertical and horizontal fracking?

● (1140)

Mr. Michael Binnion: The first thing that happened in the Barnett Shale, which was the very first successful commercial shale play, was that Mitchell Oil tried and experimented for years and years with different types of fracking technology, trying to find something that would work. The amazing thing was that in the end the successful answer was basically just water and essentially no additives. That coincidentally means it's also less expensive and makes it more competitive.

When we say no chemicals, we still put in the prime chemicals—and we've listed them all on our web page again. We use something to break the surface tension of the water so that the water will slick, and then something—it's actually a food additive, a gel—to help hold the sand. Those are the two prime things that we use. On top of that, there will be small amounts of iron control, and biocides to make sure that we don't get bacteria growth—those types of things.

Mr. Mike Allen: Okay.

Mr. Michael Binnion: The rest of your question was about what has changed on the other side. We are carrying out larger and larger fracs. It has been a steady progression. Ten or twenty years ago we might have been doing 30-tonne fracs. Now we're doing 100-tonne and 200-tonne fracs. So we've increased the size of individual fracs.

Then we've put more than one frac into one well in these horizontal wells. Those have been the advancements.

Mr. Mike Allen: Okay.

You talked a little bit about the service sector being mainly in the west. In New Brunswick, we're just starting to go down this road as well, and there are some companies that are exploring—and I see a couple of ridges in the document the Library of Parliament gave us here.

If the shale gas was exploited to its full capability, is there a rule of thumb with respect to the impact from a well on the GDP of the provinces or the revenue of the provinces, for example, Quebec and Atlantic Canada?

Mr. Michael Binnion: I would have to say no. We have done an impact study in Quebec, by SECOR. The main problem with that study, though, because there's no economic data in Quebec, was that it really didn't take into account the impact of development of a local service sector. In my view, this means that it more or less missed the whole point, because that's where most of the capital is spent—through the service sector in the oil and gas business, with all the people in Calgary being the tip of an iceberg, having outsourced in almost the entire business.

Mr. Mike Allen: Is there a ratio of the number of employees in the service sector to the well? Is there any data of that kind on what the employment would mean?

Further to that question, what would be the most common technological expertise that would be required?

Mr. Michael Binnion: There must be a ratio, but I don't know it. I know there are many more people employed in the service sector on an employment basis than in the exploration and production companies, but I'd have to defer to someone who knows that exact number.

In terms of types of jobs, there are just so many. There's construction, because we construct well sites; there's all kinds of labour around the rig itself; there are so many different services that show up there, from cementing to logging to monitoring of your drilling to the rig itself. There are so many different specialty services on a rig site. There are typically 50 to 100 people working on a rig at one time. There are all kinds of different qualifications, from labour all the way to people who are highly trained.

It's a bit tough to bring that down, but you're on to the point that is my current challenge in Quebec: to bring that point exactly down for people on the south shore.

Mr. Mike Allen: You talked about 50 to 100 people on the well. Then, in response to one of the questions, you also said it has been advantageous to the agricultural community in the west because your footprint is quite small.

What is the size of the footprint?

Mr. Michael Binnion: That footprint would probably be somewhere around a 100 by 100-metre lease while operations are going on. Lease sizes have grown a little bit now, as we're now putting many wells on one platform or one pad, which means we have far fewer pads, but the one pad you have is slightly larger. They're going to as high as 120 by 120, maybe even 150 by 120. The key thing is that once the operation is finished, the well in shale gas produces for 10 to 50 years or so, and those 100 people and all that machinery all go away. This is very easy for farmers to deal with, and they continue to be paid their lease payments for the life of the well.

Mr. Mike Allen: When you look at the regulatory framework and how it has evolved over time with respect to shale gas, what is there within the regulatory framework that you think has worked and has stimulated shale development?

● (1145)

Mr. Michael Binnion: When Campbell in British Columbia started to deregulate, the B.C. oil and gas business, which had been somewhat languishing, suddenly took off. That was certainly one thing that was successful. We've seen the impacts of the royalty review on the business in Alberta; there is something that did the opposite of stimulating activity.

I have to say, when I look at jurisdictions, and I've worked in several jurisdictions around the world, including the United States and Canada, but also overseas, that Canada—centred, really, in Alberta, where there's a lot of expertise that B.C. and Saskatchewan draw on as well—has one of the best, if not the best, regulatory systems in the world. This is not to say to the people back home that it doesn't have room for improvement.

The Chair: Thank you, Mr. Allen.

We go now to the second round. We can go until 12:05, so we should be able to go with five minutes each.

We'll start with Mr. Tonks.

Mr. Alan Tonks (York South—Weston, Lib.): Thank you very much, Mr. Chairman.

Thank you, Mr. Binnion, for being here. It's always instructive for the committee to have someone who is actually on the ground and has experience of the kind you've had.

My questions are in relation to the strategic argument that you've used vis-à-vis the relationship that China and Europe have played with respect to the fluctuations and the monopoly, if you will, that led to extreme pricing changes and probably influenced investment strategies and so on.

My question is, first, what is presently happening with respect to Chinese investment? In fact, are the Chinese engaged to the same extent as you've outlined for our interest in the North American context? Are they interested and are they engaged in either investment strategies or technology and development strategies that would impact on pricing and supply/demand?

Mr. Michael Binnion: I'll give you some anecdotal answers. I know that there is large investment going into natural gas infrastructure on mainland China. Just close to home, there are two large investments that have been made—I know that CNOOC definitely made one and may have made both of them—into the Horn River shale. The real headline was that Encana, our top gas producer, had made a deal to obtain capital from a Chinese oil company in shale gas in Canada, associated with tying up long-term supplies of natural gas that had the potential to be exported to Asia.

I think the answer to your question is yes, but those are a couple of anecdotes that would support it.

Mr. Alan Tonks: All right.

The second question is somewhat related to that. Concerning shale gas development, you've made the statement that cap and trade is not the direction to go; it is the carbon tax.

How would that influence investment decisions? Could you walk us through that a bit?

What would be the difference in the application of a cap and trade system with respect to the shale gas, as it would be reflected in investment and in research and so on, as compared with a carbon tax?

Mr. Michael Binnion: The objection I have to cap and trade systems is that they depend on carbon certificates and they depend on those carbon certificates being limited. The experience in Europe is that political imperatives will then change the number of certificates. This means trusting that we're not going to just print more certificates when a political imperative comes up.

All the discussion in America around the coal-fired industry, which is 50% of electricity in the United States, saying that they have to be given certificates for this whole thing to work, to me just defeats the whole idea of it in the first place. The carbon tax, as I said, is a far more neutral, less distorting way to do it, because it allows consumers, based on price decisions, to make decisions about emissions rather than allowing people to make them based on who's going to get the certificates.

● (1150)

Mr. Alan Tonks: Right.

Mr. Michael Binnion: So in terms of investment, I think a carbon tax system would be a more predictable environment for business to invest in than a cap and trade system based on government's controlling and limiting the number of certificates it issues.

Mr. Alan Tonks: Are you involved in the present hearings that are going on in Quebec?

Mr. Michael Binnion: I am through our Quebec Oil and Gas Association. I am in that our company has also put in its own separate memoir. But the association itself has members who are presenting at the BAPE right now.

Mr. Alan Tonks: I see.

In terms of hydraulic fracturing—and questions have been raised by Mr. Cullen and others—does the research satisfy the industry, and can you satisfy, through an environmental assessment, that the risks can be contained? You've said that the problems are with surface spills, ponds, tank leaks, and so on. But you rather diverted away from the actual fracturing process.

Mr. Michael Binnion: Opponents of natural gas, which are organizations like ProPublica and groups like that in particular, are all funded by political action committees and foundations associated with the Democratic Party, which is also strongly associated with the coal lobby.

The public relations coup that our opponents managed was to link problems associated with conventional drilling, which have existed for 100 years—and we continuously get better at that—to hydraulic fracturing. By making that link in the public's mind, they've been able to point to problems caused by conventional drilling and say, "Oh, you see? This hydraulic fracturing is dangerous." But we are starting to win back on that issue. We now have a growing number of independent studies and reports showing that the idea that a few trucks pumping water on surface will break through one or two kilometres of solid rock is, if you really think about it, almost ridiculous on the face of it, yet in the public's mind it's a concern.

Within safe depths, the potential for us to fracture to surface or into aquifers is negligible—immaterial—and that's backed up by studies by MIT and the Ground Water Protection Council. Worldwatch has done a review, and Frac Attack has done a review. Most recently the department of environment and energy in New York State has put out a comprehensive report, which I think is going to be a 1,220- or 1,300-page study, and they have concluded that the risks are negligible. Finally, the 2004 EPA study, which was a study of fracking in coal bed methane, which is far closer to surface, also concluded that the risks were negligible.

I think that's one issue on which we're on really solid ground, but it has highlighted that conventional drilling can occasionally disturb aquifers and that human errors in procedures on surface can occasionally create the potential for groundwater contamination, and that's the issue we need to address.

The Chair: Thank you, Mr. Tonks.

Go ahead, Mr. Anderson, for five minutes.

Mr. David Anderson (Cypress Hills—Grasslands, CPC): Thank you, Mr. Chair, and thank you, Mr. Binnion, for being here today.

Decades ago one of our premiers made that comment that we were going to leave the oil in the ground for Saskatchewan residents. I think that was possibly the worst decision that was ever made in our province, because by the time things were done, we were left decades behind our neighbour province, which had decided to make that development.

I'm a bit concerned, because I think I'm hearing some of the same arguments or some of that same discussion today. It just about destroyed us—well, it did destroy us—in terms of population growth. We were leading the population in the west at the time, and when it was done, our population was a third of what Alberta's is. Our economic development lagged by many years. We spent decades taking equalization from the federal government before we were finally able to get away from that.

We've had good development recently, particularly in my area in southeast Saskatchewan. It's made a huge difference to the local economy. This morning you were talking about some of the things that it's impacted. Our young people are able to stay in the communities and stay around. I think that's a concern for all of us who have any rural areas in our ridings.

You mentioned the construction jobs. We have lots of folks around with backhoes and trackhoes and that kind of thing, and it makes it easier for those of us who live there to get services as well. I mentioned employment for our young people, and it's certainly boosted the economy, both locally and in terms of export.

We were talking a little earlier about the impact in Quebec in particular, and I see that the document that was prepared for us by the analysts states that the most noteworthy shale formations in Canada include the Horn River shale in northeast British Columbia and the Utica shale natural gas field in Quebec, which is what we're talking about.

Can you tell me a little bit about the contributions that shale gas in the Utica field can make to the Quebec economy?

● (1155)

Mr. Michael Binnion: I have to say that what you said about the experience of Saskatchewan is just so obvious to people like us who live in western Canada.

I think I said, walking in, that I was coming from a part of the country where they teach about oil and gas in elementary school and ending up where people really don't know the very basics of oil and gas. Then, in addition, they haven't grown up with the types of impacts you're talking about in a place where it just becomes second nature. It's really hard to convince people of what we know is right in front of our faces in western Canada.

The benefits you talked about are exactly it. It's going to be extraordinarily positive for people on the south shore, who I think are reasonably entrepreneurial. I'm sure they will jump on these opportunities once they understand what they are and once they become real.

I don't know what more to say about that. Part of our communications effort right now on the south shore is to try to show people what it is and why they can have it.

Mr. David Anderson: I actually think if those of us who have experienced that could communicate it, that would probably help out as well. But it has transformed my part of the world from being an area where it was strictly agricultural, where the small towns were dying. We have young people who are staying around. We have the service industry—you talked about that this morning. We have good employment. We have good-paying jobs, typically in the oil and gas sector, even the ones that you wouldn't call skilled occupations. I encourage people to take a look at those kinds of things when they're thinking about whether or not to encourage this kind of development.

Mr. Michael Binnion: We do have a diaspora in Alberta from Quebec of people who sought jobs in Alberta, and I know a number of people who are from Drummondville, or somewhere in the regions in Quebec, who are saying, if we could ever have the chance to actually go home and operate in our own experience, our own expertise, this would be....

I had a couple of them at our last conference, actually—with booths at the oil and gas conference in Montreal—trying to promote to people the idea that if they wanted to start up a mud business, or this kind of business, and if they wanted to start it up in Drummondville, or in Trois-Rivières, or some place like that....

Mr. David Anderson: I guess there are misconceptions, too, about the impact. You talked about surface impact and size, but typically now it's a very small installation left on the property. At home, most everything is done through pipelines. It's oil there mainly, but through pipelines and that kind of thing, so there's very little above ground, very little disturbance, and people have been very happy with the fact that they have that development there.

Mr. Michael Binnion: We had a golf tournament in Fairlight in Saskatchewan. We have an oil field there in the Antler area, and we have a golf tournament for all the local landowners. They were all asking: When are you drilling more wells? When are you coming back?

Mr. David Anderson: They've just moved in with oil in our area, and I know that people are looking for the opportunity to have those wells on their property. They're three miles from where I live right now, so I'd love to have a few of them.

I wanted to just follow up a bit. You had mentioned later infrastructure needs and said that the federal government could have some responsibility there. What sorts of infrastructure development are needed for shale gas? It's probably different in different parts of the country.

Mr. Michael Binnion: I was really referring more to some of the consumer-oriented infrastructure. If we're going to have, for example, long-haul trucking on natural gas, which is something that has been successful in other places—and in other countries it has certainly been more pervasive than it is here—we need an infrastructure: how does that truck obtain natural gas between Quebec City and Windsor, for example, or ultimately longer distances? That public infrastructure to deliver the gas at the consumer end is a major public infrastructure effort, but it would allow diesel trucks to be natural gas trucks. That's the type of example. It also, by definition, is going to be an interprovincial pipeline, which means it will be, by definition, regulated by the federal government.

The Chair: We go now to Monsieur Pomerleau for up to five minutes.

[*Translation*]

Mr. Roger Pomerleau (Drummond, BQ): Thank you very much, Mr. Chair.

I would also like to thank you, Mr. Binnion. I am from Drummondville and I know that you, or someone from your company, came to meet with a number of mayors. Thank you for doing that. Like everyone in Quebec, the people in Drummondville are quite suspicious of this situation.

I will continue along the same lines as Mr. Anderson's argument. Quebec is not Saskatchewan. Quebec will decide what it wants to do. We have multiple sources of energy and it is up to us to decide whether we want to use electricity instead of natural gas, regular gas or wind energy. That will be decided in Quebec. It is up to us to decide whether our cars will run on natural gas or on electricity in 40 years. We have all the types of energy we need to do that. So, the problems in Quebec are very different.

You must know what the situation is like in Quebec, since you participate in the BAPE hearings. Before I ask one or two quick and rather technical questions, I would just like to point out—since it will be read by other people eventually—what draws companies to Quebec. There are major reserves, as shown by the Utica example, and future markets in Quebec or in Ontario. There is no shale gas in Ontario. There are also the emerging markets, including China and India, which will be consuming a lot of energy in 15 or 20 years. We have a great capacity to connect our discoveries to the Metro gas pipeline, which covers precisely the area where Utica is. There is also a lot of water for drilling needs. We have very clean gas. That's what we are told at least. As a result, the refining costs are probably much lower.

The subsurface does not belong to people. It is really surprising. I have just found that out. Whatever is under my land is not mine. If the subsurface does not belong to the people, that benefits the companies that only have one client, meaning the Quebec government. The industry has great connections or contacts with the government. At the moment, a number of people are leaving the government to work for the industry. It is rather extraordinary.

That's what draws businesses to Quebec. That's quite fine. On the one hand, these are very objective things. On the other hand, there is something subjective that is significantly harmful to what is to come. That's what the public is getting from all that. We know that the Quebec government is currently losing steam in terms of credibility. Every day, something new undermines its credibility. People are wondering if this government is still very solid. I always say that it is as solid as the Berlin Wall, five minutes before it fell. We've reached that point.

As soon as the government takes the industry's side, it ends up harming it because of its lack of credibility. That's what we are dealing with at the moment. I feel that Quebeckers will choose to wait a year or two, in order to first get the results of the studies to be done in the United States, which will be completely neutral in terms of what is happening here. If Quebeckers decide to get on board, they will be at the back of the bus.

In this context, I would like us to clarify a situation that the government made very confusing. Is it true that, in the United States, the subsurface belongs to the landowners, unlike here? Is it true that a prospector in the United States can pay up to $28,000 per hectare to drill a well? If the well produces, is it true that the people can claim 12% to 20% in royalties for what comes out of that well?

● (1200)

[*English*]

Mr. Michael Binnion: Just to your last question, the ownership of the underground, as you say, is separate from the surface, and that's true everywhere: America, Canada, and Quebec as well. In some places, the same person can own it, and in some cases, different people own it. The majority of Alberta is owned by the Province of Alberta on behalf of the citizens of Alberta. In Quebec, 100% of it is owned by the Province of Quebec on behalf of the Quebecois. In America, a greater percentage of the land is owned by individuals, who also own the subsurface or the underground. But in many cases, somebody can sell it. This has been true in Saskatchewan. This is true in America: I sold my underground, but I kept my surface. So you still could have different owners. A lot of America is federal land, owned by the federal government. So it's not a situation where it's one way or another way. In Quebec, it is one way: 100% of the subsurface is owned by the Province of Quebec for the citizens of Quebec.

I would like to say that in Alberta, and in fact in every jurisdiction I've worked, where the subsurface is owned by the government, we still have to have a very good working relationship with the people on the surface, because of course we cannot access what's under the ground without accessing the surface. So we are required to have a relationship both with the people on the surface and with the owners of the underground. In Quebec, that means both the Ministry of Natural Resources and the people who own the surface land. That's why, when I talk about an industry that works well with farmers, we are obligated to work well with farmers or we will lose our social acceptability.

I appreciate that you heard that we had been in the MRC of Drummondville, because we have been making an effort to get to all of the MRCs on the south shore that are interested in meeting with us. In terms of Quebec politics, right now the single most important people we need to support us are the regions. That's really where we've been focusing our efforts. I agree that the owner of the resource in Quebec is important, but so are the owners of the surface land on the south shore. They are also very important to our success.

● (1205)

The Chair: *Merci, M. Pomerleau.*

We go finally to Mr. Harris for up to five minutes.

Mr. Richard Harris (Cariboo—Prince George, CPC): Thank you, Mr. Chair.

Mr. Binnion, I want to thank you for coming here today.

I have to admit I knew very little about the shale gas industry, but this has been an experience. I appreciate the direct and complete way that you've responded to questions from all of the parties. What I'm gathering is that we have a pretty good news story here, from the point of view of energy security, of cutting greenhouse gases, and also from the economic benefits.

I guess I'm not surprised to see how fast our colleagues from the NDP and the Bloc appear to be trying to run away from this good news story. It's really a shame, because this is going to have a monumental impact on our energy supplies for decades to come. So I thank you for the way you've responded to those questions and particularly to their concerns.

I just have a couple of questions. We have for many decades been getting conventional natural gas from conventional sources. When we go from that to extracting it from shale, are we going to see a dramatic decrease in the conventional sources of natural gas? Is one going to replace the other, or is there enough demand that both will stay around? One, of course—shale gas—will likely be a bigger item than conventional natural gas.

Mr. Michael Binnion: I think that gets to the point, and this is a really important point to understand in Quebec as well. Where does natural gas come from? Right now, more than 50% of new gas comes from shale gas, and that's expected to continue. It's 10 Bcf a day now. I don't remember the number exactly, but by 2015 it will be something like 25 Bcf a day.

The real choice for Quebeckers is, do you want to burn shale gas in Quebec? The decision in Quebec has already been made. Already, 200 Bcf per year is being used in Quebec. I agree with you, Quebeckers are the ones who will make the choice, but they have made the choice; they already burn it. That's why they were making the Rabaska Terminal, so that they could be supplied with gas in Quebec.

Now the choice for Quebec is, do you want shale gas from western Canada or do you want shale gas from Quebec, because there is no other conventional source of gas to supply the market?

Mr. Richard Harris: Thank you.

You mentioned a price that I didn't quite hear: was it $3 per cubic...?

Mr. Michael Binnion: Gas is sold by thousands of cubic feet. So 1,000 cubic feet currently in North America is trading somewhat below $4, and the price in Britain is currently trading somewhat above $7. Using my napkin math, we can infer that this difference of $3 is a direct saving to people in North America from having the shale gas situated in North America.

● (1210)

Mr. Richard Harris: Would that be directly evident as a benefit to the consumers?

Mr. Michael Binnion: Getting to your overarching point, I think it's really important for us to respect that we're in new areas that haven't seen our industry, that don't understand the impacts, and are now having choices to make about their local economy and their local energy supplies that they've never had to make before. I think we must have a lot of respect for that.

But when we started to look for natural gas in Quebec, I was reminded of Jim Buckee when he took over Bow Valley Energy, saying that Bow Valley Energy was so poorly run they were even exploring for gas in Quebec. People were literally laughing at our company for the idea that we could find commercially viable gas in Quebec. Having discovered it, we thought some people might be happy.

But I do realize we have to be respectful that having discovered it, people now are asking what does it mean, and let's make sure we understand what it means before we go forward. We do respect that, but I'm with you in being a little surprised that there hasn't....

At the BAPE, I was surprised there were a lot more positive memoirs in support of us than I had expected. So there are constituencies in Quebec who see the benefits.

Mr. Richard Harris: Well, I can imagine that, Mr. Binnion, and thank you for it. You will be a big spokesman for the industry, and I appreciate the way you deliver your message.

Thank you, and all the best.

Mr. Michael Binnion: Thank you.

The Chair: Thank you, Mr. Harris.

Again, thank you very much, Mr. Binnion, for coming today and getting us off to a great start on the shale gas portion of our study. We very much appreciate it. We will get your information circulated, once it's translated, and we hope to see you again.

We will suspend the meeting now for a couple of minutes to move in camera to discuss future business of this committee.

[*Proceedings continue in camera*]

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