

Deep Shale Gas (and related) articles

March 1 - March 18, 2011

Shale Gas and Fracking In Québec Under Intense Scrutiny

March 1, 2011

T.J. Scolnick (Desmog Blog)

Late last summer, Québec's Liberal government announced a [provincial study and a series of public hearings](#) on hydraulic fracturing, the controversial natural gas industry practice under increasingly intense review following a bombshell [New York Times investigation](#) into fracking threats to drinking water and public health.

This week, the commission that the Quebec government set up to review fracking and shale development, called the *Bureau d'audiences publiques sur l'environnement* (BAPE), submitted its far-reaching report on the future of shale gas development in Québec, but it won't be available for public review until Pierre Arcand, Quebec's Minister of Sustainable Development, Environment and Parks, releases it, which could be anytime within the next 60 days.

Since the BAPE commission began its review of the "harmonious development" of the shale gas industry, much has changed in the minds of politicians and the public. Not long after the consultation announcement, the documentary [Gasland](#) revealed the shocking environmental damage and health risks posed by the hydraulic fracturing drilling method. Ever since the film's release, opposition to shale gas development has grown across North America, as well as in [Europe](#) where shale gas deposits are just being discovered.

And now, with Quebec due to decide whether or not to allow fracking to continue, there is ample reason for concern. In the course of examining each of the province's 31 shale gas wells (half of which employ hydraulic fracking) – [inspectors have found leaks in a whopping 19](#).

Public support for fracking has dropped off precipitously across the province. A [recent survey](#) of 1,000 people conducted by the daily paper *Le Devoir* found that **55% of Quebecers** are against shale-gas drilling, up from 37% in September. Moreover, **among those who have followed the issue closely, opposition is running at 75%**. More than 128,000 people have signed an online petition calling on Liberal Premier Jean Charest to place a moratorium on shale gas development.

Premier Charest's government, once a vociferous advocate for shale gas development, is muting its cheerleading of late and appears to understand the real threat posed by fracking. Minister Arcand [admitted publicly](#) last week that, "The industry is not in control of the situation" and that he is

"extremely concerned" about the impacts from shale gas development.

Importing natural gas from the western Canadian province of Alberta to meet approximately 13% of its energy needs, Québec's [Natural Resources Department](#) estimates that there may be 40 billion cubic feet of shale gas reserves, which would be more than enough for Québec to meet its energy needs for the next 200 years, if the claims are legitimate. Of course, the province would need to continue to allow hydraulic fracturing, the primary technology enabling drillers to reach its shale gas deposits.

Coinciding with the BAPE's report being released to Minister Arcand, the citizens coalition *Maîtres chez nous 21^e siècle* released a [parallel 123-page report \[PDF available in French\]](#) Monday. After reviewing some 200 documents, *Maîtres chez nous* concluded that not only does shale gas development fail to meet Québec's principles for sustainable development, but also that shale gas is dirty and runs contrary to the province's climate change reduction targets and clean energy development goals.

Given the findings from the parallel report - and the rapidly growing public opposition to fracking - it is expected that regardless of the BAPE recommendations, the Charest government will be hard pressed to meaningfully pursue shale gas.

Stay tuned since the BAPE study will likely be made public sooner rather than later.

Parallel safety study calls for moratorium

Looked at 200 briefs submitted to BAPE

Montreal Gazette,
KEVIN DOUGHERTY
March 1, 2011

As concerns about the safety of shale-gas development go global, Quebec Environment Minister Pierre Arcand said through a spokesperson yesterday that he plans to make public "as promptly as possible" a report by the province's environmental impact agency.

In September, Arcand asked Quebec's Bureau d'audiences publiques sur l'environnement to hold public hearings on the environmental and health aspects of shale-gas development, without first doing its own impact study.

The BAPE panel was given a February deadline and now Arcand has 60 days to deliberate on the report before it is released, although he intends to do so sooner.

The New York Times reported on the weekend after a nine-month investigation that wastewater from hydraulic fracturing, the process used to shatter underground rock formations to liberate natural gas from shale, may spread radiation.

The newspaper said researchers for the U.S. Environmental Protection Agency and the shale-gas industry say the danger of radioactive wastewater "is its potential to contaminate drinking water or enter the food chain through fish or farming," causing cancer and other health problems.

In Quebec, shale-gas exploration between Montreal and Quebec City is under some of the province's best agricultural land.

It is likely the BAPE report will figure on the agenda of Premier Jean Charest's cabinet meeting tomorrow but in the meantime, environmentalists have done their own report.

Styling themselves the Bureau parallèle d'audiences publiques sur l'environnement, the eight-member "citizens" group, who were opposed to shale gas from the start, concluded after reviewing about 200 briefs presented at the BAPE hearings, that Quebec should have a moratorium on shale gas development.

The report notes that Quebec's law on sustainable development casts the province as a leader, and Quebec also has a forward-looking approach to energy policy, favouring renewable energy sources, and a law on water quality.

Quebec also has an ambitious goal of a 20-per-cent reduction of greenhouse gases by 2020, the parallel report notes.

"Several have questioned, however, the coherence of steps taken by the government in the present case with the principles of these laws and policies," the report says.

It argues there is not enough information to establish a sound framework for safe shale-gas development, noting that Quebec's Institut national de santé publique could not complete its study on shale-gas risks because the scientific data are not available. And it notes that a major study by the U.S. EPA on the impact of shale-gas development on water will not be completed until 2012.

The authors also question the impact on Quebec farming and the true economic costs if, as a side effect of developing shale gas, Quebec's groundwater becomes contaminated.

In France over the weekend, 10,000 people in Villeneuve-de-Berg, in the agricultural Ardèche region, demonstrated against shale gas development. The International Energy Agency estimates there are 35 trillion cubic feet of recoverable shale gas in Europe from Britain to Poland.

Members of Britain's House of Commons are also looking into the hazards of shale gas development.

Gasland, the Academy Award-nominated documentary, is feeding worries about water being contaminated in the fracking process and explosive natural gas coming out of water taps. Last year, after Gasland was widely shown, New York state imposed a moratorium on fracking.

Lucien Bouchard, Quebec's new mother-in-law

Lucien Bouchard has been acting like an elder statesman lately. In reality, he's a lobbyist promoting a private industry

DON MACPHERSON
Montreal Gazette
March 1, 2011

In Quebec politics, they're called "mothers-in-law" - former Parti Québécois

premiers looking over the shoulders of active politicians and voicing criticism and advice.

The latest is Lucien Bouchard. After 10 years of generally observing his parting vow to respect a former leader's "duty of discretion" not to comment on politics, the former PQ premier has spent recent days appearing to make up for lost time.

He has said Premier Jean Charest should hold a construction inquiry and opposed the PQ proposal to apply Bill 101 to the CEGEPs. And he has attributed François Legault's popularity to a "political vacuum" created by the Liberals and the PQ rather than Legault's policy proposals, which contain "not much."

In a series of interviews since he began his new job last week as lobbyist for the shale-gas industry, Bouchard hasn't ducked questions outside of his mandate.

Maybe he misses politics, although at age 72 he's not likely to make a comeback in anything more demanding than an occasional advisory role.

But by addressing issues other than shale-gas development, Bouchard appears to be an elder statesman concerned with the general interest rather than a lobbyist promoting a private one.

Not that Bouchard conceals that he was hired by Calgary-based Talisman Energy Inc. as its representative on the board of directors of the two-year-old Quebec Oil and Gas Association, which then chose him as its chairman.

He says he is simply practising his profession as a lawyer, as he did before and after his political career.

But as a lawyer, Bouchard is more than an advocate arguing his client's case. To get the best deal for his client, he must also be a strategist, an adviser and - an area in which Bouchard has particular expertise - a negotiator.

In this case, Bouchard recognizes that he must negotiate with public opinion, a majority of which opposes shale-gas development under any conditions, from a position of weakness.

So he has brought a conciliatory tone to the industry as its spokesperson, presenting himself as a mediator between the public interest and the private interests of the industry that is his client.

He has said the public interest must take precedence over private ones and that development must respect the environment and local communities, admitting past "blunders" on the part of the industry.

And, in anticipation of recommendations of the environmental hearings board that were to be submitted to the government yesterday, he has offered such concessions as higher royalty payments and floating the idea of a moratorium on new well drilling for the rest of this year.

Listening to Bouchard, it's easy to forget that he's no longer premier, and is instead the hired mouthpiece for private interests that want to develop a resource as profitably as possible.

It's not the first time that Bouchard has stepped in where the current premier lacked credibility. Again he is acting as what my friend Michel David of Le Devoir calls "premier by proxy."

Six years ago, with Charest failing to deliver on his promise to reduce the size and cost of government, Bouchard tried to come to his rescue as spokesperson for an ad hoc pro-austerity committee called the "lucids."

But Bouchard failed, too, which exposed him as an overrated opinion leader who had lost the mystical persuasive power he appeared to have in the 1995 sovereignty referendum.

In fact, Bouchard has been more successful as a follower of opinion than a leader, at giving Quebecers confidence to go where they already wanted than leading them where they didn't, at riding the tide of public opinion rather than reversing it.

And it's the latter that he's been hired by the shale-gas industry to do.

PR - USA.NET

March 1, 2011

Questerre Energy Corporation ("Questerre" or the "Company") (TSX:QEC) (OSLO:QEC) reported today on its preliminary financial and operating results for 2010.

Michael Binnion, President and Chief Executive Officer of Questerre, commented, "The initial results from our pilot horizontal well program in 2010 were excellent. They continued to validate our significant Utica discovery in the St. Lawrence Lowlands, Quebec. Notwithstanding the one year delay from our original timeline, I am confident that 2011 will be the year we make a break through on the prerequisites for commercial development."

Mr. Binnion added, "While we work on establishing new legislation and social acceptability in Quebec, we have been developing our light oil assets in Saskatchewan. During the year, we successfully completed a 13 (6.5 net) well program and more than doubled our landholdings in this area. Approximately 80% of our \$38 million in net capital expenditures for 2010 was spent in

Saskatchewan drilling and completing wells as well as acquiring additional acreage. We now hold over 41,000 net acres of undeveloped land in this high netback oil play. We will further grow this asset in 2011 as a potential source of future development capital for the Utica."

2010 Highlights

- Initial horizontal wells for the Utica shale pilot program in the Lowlands met or exceeded expectations
- Concluded pipeline agreement and preliminary work for a 3-D seismic program for the commercial demonstration project targeting the St. Edouard area in the Lowlands
- Establishing new hydrocarbon legislation, social acceptability and a local service sector has delayed commercialization of the Utica shale by one year
- Successful drilling program in Antler, Saskatchewan contributes to growing light oil reserves
- Completed \$128 million equity issue for early commercialization of Utica shale in Quebec
- Improved oil weighting and crude oil prices generated cash flow from operations of \$4.74 million with average daily production of 619 boe/d
- Strengthened balance sheet with \$136 million in positive working capital and no debt

For the year ended December 31, 2010, the Company reported cash flow from operations of \$4.74 million as compared to \$2.88 million for the prior year. Higher oil prices and an increased proportion of light oil from Antler offset the decline in production volumes. Questerre's production averaged 619 boe/d (2009: 810 boe/d) with oil and liquids accounting for 53% of volumes (2009: 47%). As at December 31, 2010, the Company reported a net working capital surplus of \$136.08 million (2009: \$46.50 million).

The term "cash flow from operations" is a non-GAAP measure. Please see the reconciliation elsewhere in this press release.

Questerre Energy Corporation is an independent energy company focused on shale gas in North America. The Company is concentrated on establishing commerciality of its Utica shale gas discovery in the St. Lawrence Lowlands, Québec. Questerre is committed to the economic development of its resources in an environmentally conscious and socially responsible manner.

This news release contains certain statements which constitute forward-looking statements or information ("forward-looking statements"), including the results from our horizontal wells and the timing and scope of future operations. Although the Company believes that the expectations reflected in our forward-looking statements are reasonable, our forward-looking statements have been based on factors and assumptions concerning future events which may prove to be inaccurate. Those factors and assumptions are based upon currently available information available to the Company. Such statements are subject to known and unknown risks, uncertainties and other factors that could influence actual results or events and cause actual results or events to differ materially from those stated, anticipated or implied in the forward looking statements. As such, readers are cautioned not to place undue reliance on the forward looking statements, as no assurance can be provided as to future results, levels of activity or achievements. The risks, uncertainties, material assumptions and other factors that could affect actual results are discussed in our Annual Information Form and other documents available at www.sedar.com. Furthermore, the forward-looking statements contained in this document are made as of the date of this document and, except as required by applicable law, the Company does not undertake any obligation to publicly update or to revise any of the included forward-looking

statements, whether as a result of new information, future events or otherwise. The forward-looking statements contained in this document are expressly qualified by this cautionary statement.

This news release does not constitute an offer of securities for sale in the United States. These securities may not be offered or sold in the United States absent registration or an available exemption from registration under the United States Securities Act of 1933, as amended.

Barrel of oil equivalent ("boe") amounts may be misleading, particularly if used in isolation. A boe conversion ratio has been calculated using a conversion rate of six thousand cubic feet of natural gas to one barrel of oil and is based on an energy equivalent conversion method application at the burner tip and does not necessarily represent an economic value equivalent at the wellhead.

This press release contains the terms "cash flow from operations" and "netbacks" which are non-GAAP terms. Questerre uses these measures to help evaluate its performance.

As an indicator of Questerre's performance, cash flow from operations should not be considered as an alternative to, or more meaningful than, cash flows from operating activities as determined in accordance with Canadian GAAP. Questerre's determination of cash flow from operations may not be comparable to that reported by other companies. Questerre considers cash flow from operations to be a key measure as it demonstrates the Company's ability to generate the cash necessary to fund operations and support activities.

Cash Flow from Operations Reconciliation

For the year ended December 31,	2010	2009
Cash flows from operating activities	\$ 3,629,524	\$ (26,529)
Net change in non-cash operating working capital	1,115,036	2,905,105
Cash flow from operations	\$ 4,744,560	\$ 2,878,576

The Company considers netbacks a key measure as it demonstrates its profitability relative to current commodity prices. Operating netbacks per boe equal total petroleum and natural gas revenue per boe adjusted for royalties per boe and operating expenses per boe.

Fracking will cause 'irreversible harm'

shale-gas extraction after-effects will threaten drinking water, could jeopardize agriculture, expert says

Kevin Dougherty
Montreal Gazette
March 4, 2011

A worker pours salt into a mixer as he prepares drilling fluid - a combination of water, sand and chemicals - for fracking.

Photograph by: TIM SHAFFER, REUTERS

QUEBEC - A geological engineering professor whose specialty is rock mechanics and hydrogeology says hydraulic fracturing to free natural gas from shale rock formations will cause "irreversible harm" lasting thousands of years.



And the gas companies will be long gone, leaving behind costly remediation, Marc Durand said in an interview, suggesting the gas producers should be forced to establish a reserve fund.

"The billions required would be much more than all the profits beckoning now," said the retired Université du Québec à Montréal professor.

The circulating gas left behind will threaten the water Quebecers drink and could jeopardize agriculture, he said. The Utica shale field gas deposits between Montreal and Quebec City lie under some of the best farmland in the province.

"Fracking" is the technique of pumping a mixture of water, sand and a cocktail of toxic chemicals under pressure into wells drilled horizontally to liberate the gas from the shale.

But Durand noted that fracking gets out only 20 per cent of the gas, a figure confirmed by Canada's National Energy Board.

After maybe eight years of production, the gas companies will seal - and forget - the wells, Durand said.

The rock formations shattered by fracking will be "thousands of times more permeable," allowing the remaining 80 per cent of shale gas and underground water, 10 times more salty than sea water, to continue circulating, bubbling to the surface through the disused gas wells.

Over time, methane could leak into the groundwater and gas leaks could gush, uncontrolled, into the air.

"Because this happens deep below, it is not visible on the surface," Durand wrote in a paper raising questions about shale gas.

Durand wanted to present his scientific findings to the Bureau d'audiences publiques sur l'environnement panel looking into on the impact of shale gas but could not meet the BAPE's Nov. 25 deadline for briefs.

"It took me several months to do my research," Durand said from his home in Shefford. "The environmentalists were already mobilized to testify, but scientific studies take several months to do."

The BAPE had six months, starting last September, to hear about 200 briefs then travel to other jurisdictions where shale gas is being developed, before writing its report, which was handed to Environment Minister Pierre Arcand Feb. 28.

Arcand has not made public the report, which the government says it will use to write a new law raising royalties charged to the companies and regulating the shale-gas development.

The National Energy Board estimates there are 1,000 trillion cubic feet - or more - of shale gas in Canada, with about 200 trillion cubic feet in the Quebec Lowlands field.

"It was always there," Durand said, though it was not possible to extract before the fracking process was developed.

Durand said he was surprised when he read the terms of the BAPE mandate - to reconcile sustainable development with shale-gas production.

"Shale gas is not renewable energy," he said. "You burn it, and it is gone. "It is the antithesis of sustainable development," he added. "It takes politicians to give a mandate to a commission to study how to have sustainable development with shale gas.

"The first question - should we do it or not? - was not given to the BAPE panel," Durand said. "The government had already decided to go ahead with it when the panel was formed."

Premier Jean Charest and Natural Resources Minister Nathalie Normandeau do not hide their enthusiasm for shale gas, seeing jobs, billions of dollars in new investments and the end of \$2 billion a year in natural-gas imports from Alberta.

Normandeau let slip this week that, thanks to shale gas, the controversial Rabaska liquefied natural gas port in Lévis, across the St. Lawrence River from Quebec City, has been shelved.

And Parti Québécois leader Pauline Marois, while stressing that shale-gas development should respect the environment and not endanger the health of Quebecers, has called for a moratorium until the safety of shale gas is clear.

But Marois is not opposed to developing Quebec's shale-gas potential.

Former PQ premier Lucien Bouchard has entered the fray, as spokesman for the Association pétrolière et gazière du Québec, representing the shale-gas companies.

"They don't know," Durand said, adding that while he respects Marois and Bouchard, they lack the expertise to understand what is at stake.

"It's geology," he explained. "It is very technical, and the companies have sold them the idea that there is \$15 billion to \$20 billion of resources sleeping under our feet."

Durand noted that gas companies are scrambling worldwide to stake their claims and trying to rush the process along, sometimes leaning on politicians.

They promote shale gas as a cleaner alternative to coal and oil.

But the companies' assurances that shale-gas production is as safe as conventional gas production do not stand up, Durand says.

Conventional natural gas can be extracted without fracking and 95 per cent and more is recovered. Fracking leaves behind a chemical soup that includes radiation, the New York Times revealed this week, and 80 per cent of the gas stays in the ground.

Even though abandoned wells will be capped with concrete, Durand points to Quebec's experience with crumbling bridges and overpasses.

"Each of the wells will still be there for a thousand years as the concrete degrades or the steel corrodes," he said, adding, "I would say the lifespan of a well will be between 10 and 30 years.

"So in 10 years, we will have the first wells that collapse. What will we do then?"

The ‘Quebec model’ and energy resources

Montreal Gazette

March 4, 2011

MONTREAL - There was a decided retro tinge to the launching this week of a manifesto calling for the provincial government to take control of all energy-resource development in the province.

The group that prepared the document calls itself *Maîtres chez nous 21e siècle*, a borrowing from the slogan that Jean Lesage’s *équipe du tonnerre* rode to victory in the 1962 provincial elections. Its leading signatories are, if not has-beens, best known for their former public incarnations: ex-premier Bernard Landry; Claude Béland, ex-president of the Desjardins credit-union movement; Claude Larose, ex-president of the CSN labour central.

The group’s proposal harks back to the early-1960s nationalization of Quebec’s hydro-electricity resources, and offers it as a model for the development of more recently emerged energy technologies and resources: wind power, natural gas and petroleum. The manifesto is highly critical of the Charest government for allowing private firms to take the lead in exploration and development of potential energy resources, notably shale gas and petroleum.

But while it’s true that the government has been slapdash in its approach to development of newly emerged energy resources, notably shale gas, nationalization is not the optimal route, despite its sentimental attraction for devotees of the statist “Quebec model” of development.

It overlooks vital differences between the development of hydroelectric resources and fossil-fuel extraction. A prime consideration in nationalizing hydro resources was to establish a network that would allow for uniform electricity pricing provincewide, and in that respect it has splendidly succeeded. This, however, is not an imperative in gas or petroleum exploitation.

As well, the potential for hydro development was clear. The rivers were in plain sight waiting to be tapped. Gas and petroleum development, however, is contingent on as-yet-undetermined underground deposits. Exploration for these is a costly business that requires expertise and resources the government currently lacks.

It is also a risky business. The government could invest hugely in exploration and come up with less return than anticipated – and this at a time when it is already hugely in debt and faced with other pressing societal needs. Meanwhile, the private sector has the motivation and the resources to explore and develop gas and petroleum deposits. The government’s role should be to encourage this while exacting appropriate royalties and enforcing stringent environmental rules.

With very few exceptions, this is the model to which the rest of the world adheres in this 21st century. All things considered, it is also the most sensible route for Quebec to take.

Judgment in this area shouldn’t be clouded by nostalgia for a bygone time, no matter how glorious.

Risks of shale gas seem to outweigh the advantages

Henry Aubin
Montreal Gazette
March 5, 2011

MONTREAL - The Charest government wants to permit the exploitation of shale gas while applying safeguards to prevent permanent damage to the environment. Is that a realistic ambition?

Let's see what steps Quebec can and cannot take to prevent environmental harm.

Here are some measures that would help. Quebec:

Could insist on stringent rules for capping wells that are not in use. This would help keep methane from leaking from wells, as has already happened at 19 of the 31 gas-exploration sites in Quebec. Methane is one of the most potent greenhouse gases.

Could ban the inclusion of toxic liquids such as diesel fuel in so-called fracking operations – that is, the pumping of millions of litres of chemical-laced water into each well. These liquids break up shale formations as much as two kilometres below ground and liberate tiny pockets of gas. It was revealed last month that 12 companies in 19 U.S. states had mixed 32 million gallons of diesel fuel into fracking liquids from 2005 to 2009. The risk is that cancer-causing chemicals in the fuel could migrate into sources of drinking water.

Could also tighten its notoriously lax rules on where companies can drill for gas. A 19th-century mining law gives companies the right to drill exploratory wells almost anywhere in the province – including environmentally sensitive areas – without permission from municipal authorities or even property owners. If a company wanted to drill atop Mount Royal or on your lawn, no law could stop it.

Could introduce additional safeguards that its environmental-review agency, the BAPE, is recommending in a detailed report given this week to Environment Minister Pierre Arcand. The report is to be made public before the end of April. BAPE is a fairly conscientious body, so for the sake of argument, let's assume that it makes state-of-the-art recommendations and that the government accepts them all.

If all these steps were taken, could we then all relax?

Hardly. Certain environmental consequences of shale-gas exploitation defy solutions:

Let's start with methane leakage. Even if those concrete plugs were to last in perpetuity, leakage appears unavoidable. ProPublica, an investigative-journalism website, cites a U.S. Environmental Protection Agency report that says the greenhouse gases that escape from loose pipe valves or that are vented from the industry's U.S. operations have an impact on climate change equal to that of emissions

from 35 million cars. A spokesperson for Talisman Energy, which has major plans for Quebec, calls venting a “standard practice to prevent the potentially dangerous accumulation of gas in the well.”

Even if not a drop of diesel fuel or other toxins were ever injected from the wellhead, the problem of water pollution would remain. That’s because, as the New York Times reported last Sunday, fracking can release cancer-causing materials that occur naturally deep underground. These include radioactive elements such as radium, intensely corrosive salts and benzene. In the United States, some of this resurfacing wastewater goes to sewage-treatment plants that cannot remove these contaminants. Business pressures often cause companies to dump wastewater into waterways. In Pennsylvania, whose 71,000 wells make it the Saudi Arabia of gas, much of this radioactivity enters rivers, sometimes upstream from drinking-water plants. Companies in Pennsylvania have recently begun reusing much of the wastewater to reduce the amount to be disposed. But the Times reported on Wednesday that health and environmental risks remain. In the end, the sludge from all this wastewater is toxic, and no completely safe way exists to dispose of it.

Smog, too, is a problem. For example, Wyoming’s thinly populated Sublette County has one of the highest concentrations of wells and vapours from them help produce levels of ozone – a prime component of smog – higher than in Los Angeles.

To be sure, these problems south of the border might not be replicated precisely here. Talisman says, for example, that its consultant’s tests shows far less radioactivity here than in Pennsylvania (although this needs independent corroboration). Still, experience elsewhere has established the overall environmental downside of shale-gas exploitation.

Tough regulations adopted in the wake of the BAPE report could help lessen the harm. But the question is, could they be rigorously enforced?

Quebec has sometimes been called a polluters’ paradise because of its tradition of slack environmental protection. Even an uncharacteristically keen corps of inspectors would have a hard time enforcing regulations at the 15,000 wells that the Quebec Oil and Gas Association estimates could be drilled in the province during the next 20 years. Many would be in remote areas.

No matter what steps the Charest government takes to reduce the risks of shale gas, those risks appear great.

As for the environmental upside, it’s far less than commonly touted. The natural-gas industry likes to say its product, when burned, gives off 31 per cent less carbon dioxide (the main greenhouse gas) than heating oil and 45 per cent less than coal. When you count for methane leaks, however, much of gas’s relative climate-change virtue literally vanishes into thin air.

The 'Quebec model' and energy resources

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Montreal Gazette
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Analysis: Quebec buying time on shale gas

Kevin Dougherty,
Montreal Gazette
March 8, 2011

QUEBEC — The Charest government was left with no other choice Tuesday but to put the brakes on shale-gas development in the province.

But in releasing a report on the environmental and health impacts of shale gas that even its authors admitted left many questions unanswered, Environment Minister Pierre Arcand did not bend to opposition demands for a shale-gas moratorium.

People living in a broad swath of Quebec, between Montreal and Quebec City, where the Utica shale-gas formation runs under populated and agricultural areas, loudly protested against shale-gas development.

Instead of a full stop in the murky process of fracturing underground rock to extract trapped gas, Arcand indicated the government is just slowing down, buying time, with the goal of pushing ahead with what it conceives as safe shale-gas extraction.

New regulations to tighten control over shale-gas exploration would be adopted quickly, Arcand said, and he set a “June or July” deadline for a new committee of experts he will name to study the unknown hazards of fracking and the waste water it generates.

Questions about gas leaks into the air and groundwater have also been raised.

The recurring theme in the 323-page Bureau d’audiences publiques sur l’environnement report was that the scientific evidence on fracking is “insufficient or nonexistent.”

The BAPE concluded that a “strategic environmental evaluation” was needed and while that evaluation was being done, it proposed that the only fracking permitted would be fracking required for the new study.

The BAPE also noted that a major piece in the shale-gas puzzle, a two-year study by the U.S. Environmental Evaluation Agency of its impact on water, would only be ready in 2012.

After announcing no new drilling and fracking only for “scientific” purposes, Arcand said that continued fracking would be allowed at the 18 shale-gas wells in the provinces that have already been fracked, and new fracking could go ahead at another 13 wells that have been drilled, but not yet fracked.

The opposition parties in the National Assembly plan to study the BAPE report before giving their reaction on Wednesday, and the Association pétrolière et gazière du Québec, representing the shale-gas companies, is also taking its time.

“We will analyze the report and discuss it with our members before taking a position or reacting to its content,” said Lucien Bouchard, the former Quebec premier and one-time federal environment minister who now is spokesman for the shale-gas companies.

Most of the opposition to shale gas has come from people living in areas where shale-gas exploration is under way.

Serge Fortier is spokesman for a citizens committee that grew from Lotbinière and Bécancour to include communities closer to Montreal as well.

Fortier noted Arcand’s argument that Quebec is ahead of other places where shale gas is being developed, because it ordered the BAPE report.

“If the citizens had not raised objections, there would never have been a BAPE,” Fortier said, recalling near-rioting at conferences the shale-gas association held last summer to present their case that shale gas was safe, despite evidence in the United States of gas and toxic chemicals in the fracking soup entering the environment.

Fortier said the BAPE report took those citizen concerns seriously. But he is disappointed with Arcand’s eagerness to push ahead with “sustainable development” of shale gas, anyway.

“I don’t see a real change,” Fortier said, adding that Arcand’s proposal for “scientific” fracking as part of the evaluation process makes no sense.

He pointed out that “thousands” of shale-gas wells have been drilled in Pennsylvania, a state where shale-gas development is well-advanced.

“Why do more?” Fortier asked.

Equiterre applauds shale-gas freeze

Jan Ravensbergen
Montreal Gazette
March 8, 2011

MONTREAL – A freeze imposed across Quebec on the shale-gas industry for the next two years responds positively to “95 per cent” of the environmental and other objections that had been raised by Equiterre and a large cross-section of other groups, Sidney Ribaux said Tuesday.

“We’re happy,” added Ribaux, Equiterre’s executive director.

“It’s a wise decision.”

Pierre Arcand, Quebec’s minister of sustainable development, environment and parks, had told reporters minutes earlier that the provincial government intends to adopt “most” of the roughly 100 recommendations on the shale-gas industry from the Bureau d’audiences publiques sur l’environnement (BAPE).

The BAPE report was released at 4 p.m.

“About a year ago, we came out with recommendations that are exactly what the government is saying now,” Ribaux said. He noted that he had not had time to fully digest all the details in the 323-page report.

Arcand announced a freeze on hydraulic fracturing, also known as fracking, while environmental-impact studies are conducted.

Ribaux described this halt as, “for all practical purposes, a moratorium” on fracking.

Fracking pumps a mixture of water, sand and a cocktail of toxic chemicals into wells drilled horizontally, to release natural gas from shale.

“Many other organizations were saying” such a Quebec freeze was required, Ribaux noted.

A broad spectrum of groups had argued, he added, that the industry had started to drill exploration wells and had begun fracking “without the proper studies.”

The minister said his latest figures show 31 shale-gas exploration wells have been drilled in Quebec – and that 18 have thus far been fracked.

A few more might be fracked and monitored for the detailed environmental-impact study recommended by BAPE and now poised to proceed, Arcand suggested.

He wouldn’t forecast figures.

“It took the government a while to come around, perhaps to figure out the importance of the impact” of fracking on the environment and on drinking-water quality, Ribaux added.

“The government has just completely changed its mind” on fracking, he said.

“We sensed, from the beginning, that there was a debate within the government, among the experts at the government and in the different departments.

“And what we see today is that the ones who are thinking about the long-term, their opinions prevailed.

“This is good news.”

Denis Hamel, vice-president (public affairs) of the Fédération des chambres de commerce du Québec, said he was “not surprised” by the government’s general adoption of the BAPE report.

Hamel agreed completely with Ribaux on one core element:

He said the prime practical effect is “a de facto moratorium” on the industry for the duration of the scientific study, although, Hamel noted, “they didn’t use the word moratorium.”

Hamel suggested this freeze could last “between 18 and 24 months.”

Arcand had earlier refused to be pinned down on any such time frame.

“We were hoping,” Hamel said, “that the delay ... would be shorter.”

The report, he added, represents “a colossal amount of work that did not go in the direction for which we wished.”

Gaz de schiste : Québec commandera un autre rapport

Jean-Francois Cliche
Le Soleil
March 8, 2011

L'évaluation environnementale suggérée par le BAPE est un «passage obligé» pour développer le gaz de shale et en assurer l'acceptabilité sociale, plaide-t-on dans le rapport.

Photothèque La Presse



(Montréal) «C'est quelque chose qui ressemble à un moratoire.»

Quelques jours après avoir reçu le rapport du Bureau d'audiences publiques sur l'environnement (BAPE) sur les gaz de schiste, le ministre de l'Environnement, Pierre Arcand, s'apprête à commander une nouvelle étude sur le même sujet qui pourrait prendre, celle-là, entre 18 mois et deux ans à compléter. Il s'agira d'une «étude environnementale stratégique» (EES), du même type que celle qui a débouché, en septembre, sur l'interdiction d'effectuer des relevés sismiques dans l'estuaire du Saint-Laurent.

La mise sur pied de cette EES constitue la principale recommandation formulée dans le rapport du BAPE, que M. Arcand a rendu public mardi, à Montréal. Après cinq mois de travail, d'audiences et de visites de puits de gaz de schiste aux États-Unis, les commissaires ont dû constater que «pour certaines questions fondamentales [notamment sur la protection des eaux souterraines, N.D.L.R.], les réponses sont partielles ou inexistantes». Par conséquent, conclut le rapport, «la réalisation d'une [EES] devient un passage obligé tant dans un processus de prise de décision éclairée que pour la recherche d'une meilleure acceptabilité sur le plan social».

Activités gelées

Et dans l'intervalle, a précisé M. Arcand lors d'un entretien avec *Le Soleil*, «les seuls puits qui pourront être fracturés seront ceux qui aident à améliorer nos connaissances scientifiques». Ces travaux devront s'inscrire dans le cadre de l'EES, ce qui revient quasiment à geler les activités de l'industrie, car le ministre prévoit qu'un nombre «très limité» de fracturations seront ainsi autorisées.

Rappelons que le gaz de schiste est retenu «prisonnier» depuis des millions d'années dans des roches nommées shale ou schiste. Pour le récupérer, l'industrie injecte sous haute pression des millions de litres d'eau (additionnée de sable et de produits chimiques) dans le sol afin de fracturer la pierre. Les grains de sable s'introduisent alors dans les fissures et les empêchent de se refermer, ce qui permet au

gaz de s'échapper. Trente et un puits de gaz de schiste ont été forés jusqu'à maintenant, dont 18 ont été fracturés.

Sur pied au printemps

L'équipe de cette EES devrait réunir «entre 5 et 10 personnes» provenant des milieux scientifiques, gouvernementaux et de l'industrie, prévoit M. Arcand, qui espère pouvoir lancer ses travaux vers la fin du printemps.

En plus de devoir servir l'EES, a ajouté le ministre, toute nouvelle fracturation devra être soumise à une consultation publique, dont la forme reste à déterminer. «Le BAPE a déjà une procédure dont on pourra s'inspirer. J'imagine qu'on aura des soirées... Tout le monde aura voix au chapitre», a avancé M. Arcand.

Ce dernier assure par ailleurs que le gouvernement a l'intention de donner suite à toutes les recommandations, ou presque, du rapport du BAPE, au nombre de 101. «Les seules restrictions [à leur application] seraient de nature technique; faire des choses pas pratiques ou qui impliquent des coûts astronomiques», a dit le ministre, sans donner plus de détails.

Du nombre, notons que Québec donnera suite à la recommandation du BAPE de rendre obligatoire la divulgation publique des additifs chimiques utilisés pour fracturer les puits, et qu'il interdira «tout additif chimique dans les eaux de fracturation pour lequel les risques pour l'environnement ou la santé ne peuvent être évalués ou qui pourrait présenter un risque».

En outre, le ministère des Finances se penchera sur les droits d'exploration gazière, jugés trop minces par plusieurs, afin de voir s'il n'y aurait pas moyen de récupérer des sommes supplémentaires.

Gaz de schiste : pas de moratoire mais presque ...

Jessica Nadeau
Rue Frontenac
March 8, 2011

Québec n'imposera pas de moratoire sur l'exploration des gaz de schiste, mais les travaux de l'industrie seront sérieusement limités en attendant les résultats d'une évaluation environnementale stratégique. C'est ce qu'a annoncé le ministre de l'Environnement Pierre Arcand suite à la publication du rapport du Bureau d'audiences publiques sur l'environnement (BAPE) mardi.

Dans son rapport, rendu public mardi, le BAPE recommande de procéder à une évaluation environnementale stratégique avant de permettre à l'industrie des gaz de schiste (ou shale) de poursuivre ses travaux de fracturation hydraulique.

« Dans le contexte actuel de l'industrie du gaz de shale au Québec, la réalisation d'une évaluation environnementale stratégique devient un passage obligé tant dans un processus de décision éclairée que pour la recherche d'une meilleure acceptabilité sur le plan social, écrivent les commissaires.

Cette démarche devrait suivre son cours malgré des pressions de développement pouvant venir d'une augmentation du prix du gaz en Amérique du Nord, lequel est relativement bas pour le moment. »

Malgré les 199 mémoires et la centaine d'avis entendus, le BAPE constate qu'il manque encore des informations cruciales pour aller de l'avant pleins gaz sur ce sujet controversé.

« Pour certaines questions fondamentales, les réponses sont toutefois partielles ou inexistantes », peut-on lire dans le rapport de 323 pages qui relève le manque de connaissances actuel sur les eaux souterraines, la géologie, le traitement des eaux usées, l'aménagement du territoire et les risques de l'exploration et de l'exploitation des gaz de shale.

Selon le BAPE, l'évaluation devrait « accorder une attention particulière aux impacts et aux risques pour les eaux souterraines ».

L'évaluation environnementale stratégique, qui s'étale généralement sur un an ou deux, permettra d'élargir les connaissances scientifiques et d'analyser, sur le terrain, toutes les variables environnementales.

Un laboratoire en temps réel

Pendant ce temps, les travaux d'exploration seront limités. Plus question de fracturation hydraulique, cette opération qui consiste à injecter sous pression de grandes quantités d'eau et de produits chimiques dans les profondeurs de la terre pour faire sortir le gaz de la roche. Cette opération, pendant la phase d'exploration, permet aux industries de connaître le potentiel réel d'un puits de gaz de schiste.

En conférence de presse mardi, le ministre de l'Environnement, Pierre Arcand, a endossé les recommandations de ses commissaires.

« La conclusion du rapport est claire, affirme le ministre Arcand. Le manque de connaissances requiert de la part du gouvernement un encadrement serré et une très grande prudence. »

C'est pourquoi le gouvernement annonce dès à présent, soit huit jours après avoir reçu les recommandations du BAPE, qu'il limitera les activités exploratoires de l'industrie.

« J'annonce aujourd'hui que les nouveaux forages et opérations de fracturation hydrauliques ne seront autorisés que pour les fins d'acquisition de connaissances scientifiques. Ce nombre, il va sans dire, sera extrêmement limité. »

Les experts pourront donc bénéficier, selon Pierre Arcand, de «véritables laboratoires» et relever les mesures en temps réel et de façon continue.

« Nous n'autoriserons pas un déploiement à grande échelle de puits à travers le Québec, je pense que c'est très clair, a-t-il précisé. Nous allons y aller avec beaucoup de prudence [...] Les Québécois doivent savoir que nous ne ferons aucun compromis sur la santé, la sécurité et le respect de l'environnement.

Le ministre de l'Environnement Pierre Arcand a endossé les recommandations de ses commissaires.

Photo Rogerio Barbosa



Limites sur l'usage des produits chimiques

D'ici là, le gouvernement du Québec entend modifier la loi afin de restreindre l'usage de produits chimiques qui posent un risque à la santé. Il s'engage également à poursuivre le programme d'inspection systématique qui a été mis de l'avant depuis l'automne et à mettre l'accent sur la migration de gaz.

Tel que le recommande le BAPE, Pierre Arcand va former un comité composé de 5 à 10 experts de tous les secteurs qui sera chargé de préparer le devis de l'évaluation environnementale stratégique et de superviser les travaux. Ceci devrait être fait d'ici le printemps.

Il s'agit là de la principale recommandation du BAPE, qui a émis au total une centaine d'avis dans son document. Les commissaires du Bureau d'audiences publiques sur l'environnement proposent également plusieurs mesures pour une cohabitation plus harmonieuse et recommandent de donner plus de pouvoir aux municipalités.

Le BAPE met en lumière le peu de coordination entre les activités du ministère de l'Environnement et de celles du ministère des Ressources naturelles.

« L'encadrement actuel de l'industrie du gaz de shale se fait de façon cloisonnée, principalement entre deux ministères, en fonction des lois dont chacun est responsable. Cette situation ne favorise pas la surveillance et le contrôle intégré des activités. »

Enfin, le BAPE est d'avis qu'il faut une analyse économique du manque à gagner lié aux faibles redevances et droits d'exploration, vendus présentement pour 0,10 \$ l'hectare. Elle recommande qu'en vertu de la future loi sur les hydrocarbures, l'octroi des droits d'exploration devraient être attribués par appel d'offres comme c'est le cas en Colombie-Britannique.

« La commission d'enquête est d'avis que, au nom du principe "efficacité économique", une analyse économique devrait être faite par le ministère des Finances afin de proposer une façon de récupérer le plus rapidement possible le manque à gagner en raison des faibles montants des droits qui ont été exigés lors de l'attribution initiale des droits d'exploration dans les basses terres du Saint-Laurent.

Réaction d'Équiterre au dévoilement du rapport du BAPE sur les gaz de schiste

Publié le 08 mars 2011

Équiterre réagit au dévoilement du rapport du Bureau d'audiences publiques sur l'environnement (BAPE):

« Le BAPE est d'accord avec les citoyens et tous ceux qui font valoir que nous manquons de connaissances et qu'avant d'aller plus loin, un temps d'arrêt est nécessaire pour mieux comprendre les tenants et les aboutissants des gaz de schiste. Nous tenons à saluer le travail des commissaires du BAPE qui ont fait un portrait complet de la situation et bien identifié les enjeux », résume Sidney Ribaux, cofondateur et coordonnateur général d'Équiterre.

« Le ministre Pierre Arcand dit accueillir favorablement le rapport du BAPE et dit vouloir suivre ses recommandations, allant même jusqu'à affirmer qu'il ne se fera plus de forage à moins que le comité sur l'évaluation environnementale stratégique n'en fasse la demande au ministère. Le gouvernement du Québec se joint au consensus social et reconnaît que trop de questions sont sans réponses », constate Steven Guilbeault cofondateur et coordonnateur général adjoint d'Équiterre.

« Nous sommes heureux de constater que le BAPE et le gouvernement du Québec sont d'avis qu'il faut prendre le temps d'approfondir nos connaissances sur les gaz de schiste. Ce temps d'arrêt nous permettra de se demander si cette filière s'inscrit dans une vision du développement durable pour le Québec et si elle permettra de faire du Québec un leader dans la lutte aux changements climatiques », ajoute Sidney Ribaux, cofondateur et coordonnateur général d'Équiterre.

-30-

Source :
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Quebec shale-gas drilling: commission

Monique Beaudin
Postmedia News
March 8, 2011



South Shore citizens groups had held demonstrations in Longueuil near Montreal during public hearings into shale-gas drilling in Quebec in November. A poll conducted in February found that 55% of Quebecers opposed drilling. Phil Carpenter/Postmedia News

MONTREAL — The question of shale-gas drilling in Quebec needs to be further studied, says a committee that spent the past six months looking into the industry.

The committee says the government should do a strategic environmental evaluation of shale-gas drilling. That's the kind of long-term study that was done on oil and gas drilling in the lower St. Lawrence River, which led to a ban on drilling last fall. That type of study, overseen by an expert committee, can take one to two years to complete.

No hydraulic fracturing — where a mixture of water, sand and chemicals is injected into the ground at high pressure — should be allowed while the study is being carried out, unless it is for research purposes, said the four commissioners who prepared the report for the Bureau d'audiences publique sur l'environnement.

After six months of studying the issue, the commission concluded that there is not enough information available to make educated decisions about the development of a shale-gas industry in Quebec.

“For certain fundamental questions, the answers are only partial or nonexistent,” the BAPE report said. “Such an evaluation is a necessary step, in order to make an informed decision” and in order to make the development of a shale-gas industry more socially acceptable, the commissioners added.

Environment Minister Pierre Arcand released the 323-page report in Montreal on Tuesday.

Quebec is believed to have important deposits of shale gas in the area south of the St. Lawrence River, between Montreal and Quebec City. So far, 29 wells have been drilled in the area, and hydraulic fracturing has taken place at 18 of them.

The Quebec Oil and Gas Association, which represents the shale-gas industry in Quebec, said it would not make any comment on the BAPE report Tuesday. It wants to take time to analyze the findings, the association said.

The Association quebecoise de lutte contre la pollution atmospherique, one of the environmental groups lobbying against shale-gas development here, said it was expecting the BAPE report to call for a moratorium on drilling.

The four-person BAPE commission held public hearings across the province, and visited wells in Canada and the United States. As the commission did its work, opposition to shale gas drilling grew.

A poll conducted in February found that 55% of Quebecers opposed drilling. Three-quarters of respondents said they wanted a moratorium.

More than 128,000 people signed a petition calling for a moratorium. High-profile Quebecers, like the Cirque du Soleil's Guy Laliberte and actor Roy Dupuis, have said Quebec should slow its approach to shale-gas drilling.

In the past month, Quebec's association of engineers, a coalition of Christian social-justice groups and more than 100 university researchers said they also support a moratorium.

While initially very supportive of the shale-gas industry, the Quebec government has changed its approach in recent weeks as news of leaks at gas wells made headlines.

In January, Arcand stepped up inspections at well sites, saying he was “extremely preoccupied” by the leaks. The industry was “not in control of the situation,” Arcand said at the time.

Premier Jean Charest has said the development of a shale-gas industry must be done “correctly” or it will not be done at all.

The government estimates that shale gas could bring an estimated \$21-billion in royalties to the province and create as many as 6,100 jobs.

Quebec Shale Gas Development Update: BAPE Report Released by Minister Arcand

Davis LLP (Legal Advisors)
March 8, 2011

Quebec's Minister of Sustainable Development, Environment and Parks, Mr. Pierre Arcand, today announced the release by the province's environmental assessment commission on the heated topic of sustainable development of the shale gas industry in Québec, whose natural gas reserves are estimated at between 9 and 40 Trillion Cubic Feet (Tcf), or approximately 25% of the overall reserves contained in the Utica Shales.

The report was prepared by the province's Bureau d'audiences publiques sur l'environnement ("BAPE") pursuant to Article 6.3 of the *Environment Quality Act*, whereby the BAPE may inquire into any question relating to the quality of the environment submitted to it by the Minister and report back to him on its findings and analysis thereof.

The report, which will undoubtedly be the subject of heavy public scrutiny in weeks to come, was released following two rounds of public consultation held in October and November 2010 and consideration by the BAPE of no less than 199 papers from interested parties representing a variety of backgrounds and interests.

The BAPE's specific mandate was threefold: (1) to propose development guidelines for shale gas exploration and production which encourage its harmonious coexistence with the neighboring environment, populations and existing activities; (2) to propose guidelines for a legal and regulatory framework for the safe and sustainable development of shale gas exploration, capture and production; and (3) to work with scientific advisors that will evaluate all challenges related to the mandate.

In its 323-page report, the BAPE puts forth 43 observations and issues over one hundred opinions that are mainly addressed to the Government of Québec. The observations and opinions mainly target the following three areas: (1) Addressing the knowledge deficit within the industry, government and in the general population; (2) Encouraging social acceptability of development through innovation in the area of public hearings and dialogue with the various government and regional actors that are involved; and (3) Strengthening current regulatory provisions.

Commenting on the report, Minister Arcand stated that "The commissioners have produced a rigorous report that sheds valuable light on this issue. I welcome its main recommendations, and I can state that it will guide our future actions". Reiterating the government's message on shale gas development in the province, the Minister said that it would "either develop properly, or else close down" and concluded that "The people of Québec need to know that we will abide no compromise on matters of health, safety or respect for the environment, and that we will take all the time needed to ensure that these conditions are fulfilled,"

Following up on the reports main recommendation that a strategic environmental assessment on shale gas be performed, Minister Arcand announced that a committee of experts and representatives from government, municipalities and industry would be created.

A copy of the report (French only) can be found [here](#).

Que. report urges halt on shale gas drilling

Study says 'Fracking' exploration can still proceed, but only for environmental study purposes

The Canadian Press
March 8, 2011

Environment Minister Pierre Arcand speaks about the BAPE report in Montreal Tuesday. (CBC)



A highly anticipated Quebec report has recommended that the province halt a controversial natural-gas drilling practice, pending further study.

Within minutes of releasing the report Tuesday, the Quebec government announced it would respect its findings.

The province's environment minister said the practice known as "fracking" will only proceed, for now, under the rubric of the environmental study and not for industrial purposes.

Environment Minister Pierre Arcand also announced that any new exploration will only be carried out after public consultations are held.

"We will not make any compromises on health, safety, or respect for the environment," Arcand said.

He called it the most important report in the 33-year history of the Bureau d'audiences publiques sur l'environnement, commonly known as the BAPE.

The report by the environmental impact-assessment bureau said the shale-gas industry should stop hydraulic fracturing until more is known about its environmental risks.

Fracturing, or "fracking," is an increasingly common method to extract natural gas trapped underground.

The process -- which uses a mixture of chemicals, sand and water blasted into subterranean wells -- has raised concerns from environmentalists.

There are currently 29 wells in Quebec. Eighteen use fracking.

Environmental concerns

Environmentalists have been calling for a moratorium on shale-gas development, saying the process needed to extract the gas poses serious risks.

But Quebec's oil and gas industry says the risks are slight compared to the potential economic benefits the industry could bring.

Quebec is home to one of the largest shale formations in North America, and supporters of the industry say it could bring \$1 billion in annual royalties to the province.

Following a series of protests last summer, Arcand asked Quebec's bureau of public hearings into the environment to look into both the environmental and health impacts of shale-gas development.

The issue has continued to prove politically controversial.

In recent months, while the government said it was waiting for the study, local celebrities demanded a moratorium. Some exploratory wells were found to be leaking gas.

And there were reports from the U.S. of strange phenomena surrounding shale gas -- like frequent earthquakes.

Last week, in Arkansas, natural gas companies were ordered to temporarily stop injecting into wells after state authorities concluded the practice was linked to hundreds of earthquakes in the area in the past six months.

On Tuesday, the U.S. Environmental Protection Agency asked Pennsylvania regulators to increase monitoring of wastewater discharges from the state's natural gas drilling industry.

Gaz de schiste

Malgré quelques réserves, le rapport du BAPE est reçu positivement

8 mars 2011
CBC French

Les premières réactions aux recommandations du BAPE [pour un encadrement plus strict de l'industrie du gaz de schiste](#) au Québec sont favorables, malgré quelques réserves.

Même s'il est encore trop tôt pour saisir les subtilités du rapport de 323 pages qui a été publié mardi après-midi, certains organismes ont fait part de leur réaction à ce document qu'ils attendaient impatiemment.

C'est le cas de Daniel Breton du groupe Maîtres chez nous 21e siècle. Il croit que la tenue d'une évaluation environnementale stratégique (EES) est une bonne nouvelle. Toutefois, il voit d'un plus mauvais oeil le fait que « l'on va continuer à faire du forage et de la fracturation ».



Même si tout nouveau forage devra dorénavant faire l'objet d'une étude scientifique, Daniel Breton se demande ce qui se passera avec les 31 puits qui sont déjà en forage ou en fracturation. Il ne comprend pas que le ministre ait répondu à cette question comme si cela ne comptait pas et considère sa réponse comme « pas claire ».

Pour Maîtres chez nous 21e siècle, il est clair que les commissaires du BAPE reconnaissent que « la charrue a été mise devant les boeufs » avec notamment une Loi sur les mines qui n'était pas adaptée à la réalité contemporaine.

De plus, Daniel Breton considère que les droits d'exploration ont été cédés « pour des pinottes » et dit avoir hâte de lire le rapport pour savoir « ce qui en est ».

On ne peut pas continuer de la façon dont on a fait avec certaines compagnies qui débarquaient dans les cours, les arrières-cours de certaines personnes. — Daniel Breton

Pierre Bluteau, du Comité de vigilance sur les gaz de schiste de Lotbinière-Bécancour, considère que le rapport correspond aux deux demandes de son groupe, soit la tenue d'un moratoire et la tenue d'études scientifiques. Se disant rassuré, il croit que le BAPE a compris « le message des citoyens ».

Pour sa part, Sébastien Turgeon du Mouvement d'appui aux gaz de shale croit que les intentions du ministre correspondent à leurs valeurs que sont « le partage, l'éthique, la transparence et l'excellence ». Ils veulent obtenir de l'information en toute transparence, ce que permettra l'EES, en souhaitant que tout se déroule dans un cadre de « développement responsable ». Il croit que les gens de l'industrie « vont devoir se plier et vont collaborer à la nouvelle démarche ».

Pierre Brazeau, coordonnateur de Mobilisation gaz de schiste Mont-Saint-Hilaire, déplore que même si plusieurs scientifiques et anciens présidents du BAPE ont dit que c'était impossible d'arriver à des conclusions, il aura fallu des millions de dollars pour renouveler le mandat du BAPE. Il parle d'argent « qui va être dépensé inutilement », alors qu'il aurait été possible de « procéder au départ comme il faut ».

Le président de l'Association québécoise de lutte contre la pollution atmosphérique, André Bélisle, se réjouit que le BAPE ait proposé la tenue d'une EES. Selon lui, la promesse du ministre de l'Environnement de donner suite au rapport est un pas dans la bonne direction parce que l'ampleur des problèmes n'est pas connue. Il ajoute qu'il faut « savoir quels sont les problèmes et surtout comment on peut les régler » en évitant « d'en créer d'autres ».

Par ailleurs, même s'il avait milité en faveur d'un moratoire, le metteur en scène Dominique Champagne n'a pas hésité à parler d'un « pas fait dans la bonne direction » en saluant le « courage du ministre Arcand et le courage de tous les citoyens qui ont tenu un esprit critique souvent à l'encontre [...] des signaux qu'on recevait du gouvernement depuis des mois ». Il ajoute que « tout n'est pas gagné » et qu'il y a encore des risques qui sont pris.

Même si, sous observation, on va pratiquer la fracturation hydraulique, [...] c'est une opération qui risque de toucher les nappes phréatiques. — Dominique Champagne

Pour sa part, le président du Conseil du patronat du Québec, Yves-Thomas Dorval, rappelle que le gouvernement a notamment le mandat de favoriser « un environnement qui permet [...] le développement économique ». Il reconnaît néanmoins que le BAPE est « un intervenant neutre, très crédible » qui a bien fait son travail, et que le gouvernement a tout de même tenté de « ménager la chèvre et le chou ».

Pour favoriser un développement durable, il faut que l'industrie puisse avoir des signaux très clairs. — Yves-Thomas Dorval

D'autres réactions suivront

Dans un communiqué, l'Association pétrolière et gazière du Québec a dit préférer analyser le rapport du BAPE avant d'émettre ses commentaires. Son porte-parole, [l'ex-premier ministre Lucien Bouchard](#), avait récemment affirmé sur les ondes de RDI que le dossier du gaz de schiste avait dérapé et que l'industrie gazière devrait changer afin de vendre le projet aux Québécois.

Pour sa part, le Parti québécois commentera mercredi matin les conclusions du rapport.

Le président et les commissaires du BAPE ne feront pas de déclaration conformément à leur code de déontologie qui prévoit un droit de réserve à cet égard.

Quebec Report Urges Halting Shale Gas Activity, More Study

By Jeremy van Loon
March 8, 2011
Bloomberg

[Quebec](#)'s environmental assessment bureau recommended halting natural-gas exploration and production in Canadian shale fields until more study provides a better understanding of the environmental impacts of the process known as hydraulic fracturing.

The recommendation, made in a government report released today, was the result of an investigation into the industry's practice of injecting water, sand and chemicals to shatter underground rocks and release gas, also known as "fracking."

The investigation was requested by the Quebec ministry of natural resources and environment following months of criticism from environmental groups such as Greenpeace and Nature Quebec about the potential contamination of drinking-water supplies.

The report underscored the need for strict monitoring and regulation of the industry, the government of Quebec said on its [website](#). The recommendation will help guide the government's actions, said Pierre Arcand, Quebec's environment minister.

Investment to explore Quebec's shale gas formations has reached C\$100 million (\$103 million) in the past two years, according to the provincial oil and gas association. Fossil fuels, including natural gas, make up 38 percent of Quebec's total energy use.

Across the U.S. border, the [Delaware](#) River Basin Commission, which manages the watershed that supplies drinking water to 15 million people in [New York](#), [Pennsylvania](#), [New Jersey](#) and Delaware, also has put gas development on hold in the river watershed while it drafts rules about hydraulic fracturing.

Quebec slams breaks on shale-gas development

JONATHAN MONTPETIT

The Canadian Press

March 8, 2011

A Talisman Energy worker walks from a shale gas drilling rig, on March 25, 2009 in Saint-Edouard-de-Lotbiniere Que. The Quebec government is set to release a highly anticipated report on the development of shale gas in the province.

THE CANADIAN PRESS/Jacques Boissinot



MONTREAL - The Quebec government has slammed the brakes on its emerging shale-gas industry, halting a controversial extraction process until it can better evaluate its environmental risks.

Environment Minister Pierre Arcand said Tuesday the government did not have enough scientific information about hydraulic fracturing to sanction its further use.

With the move, Quebec has signalled it will proceed with caution in a promising industry where others across North America have rushed ahead in the face of environmental doubts.

The announcement came just moments after Arcand released a report, anticipated for months, that examined almost every facet of Quebec's shale-gas industry.

The report by Quebec's environmental impact-assessment bureau concluded that there remained significant unknowns about the potential impact of fracturing on the environment.

"The lack of knowledge requires the government to establish strict parameters and display much prudence," Arcand told reporters in Montreal.

"We will not make any compromises on health, safety, or respect for the environment."

The announcement delighted environmental groups, who viewed it as the closest thing to the moratorium they have long been demanding.

One popular business group, the Conseil du patronat, offered a nuanced reaction while another — the federation of Quebec chambers of commerce — predicted dire economic results.

Federation spokesman Denis Hamel said he did not see how the industry can develop when an environmental study is underway and doubted new businesses will be attracted to Quebec.

"We don't see any incentive for companies to stay here or develop our own network," he said in an interview, adding the government's approach "will make things extremely difficult."

Fracturing, or fracking, sees a cocktail of chemicals, sand and water injected deep underground to release natural gas trapped in shale rock formations.

Arcand effectively imposed a temporary ban on the practise pending an in-depth study into fracking — one which could take as long as two years.

In the meantime, the only fracking allowed in the province will have to serve the purposes of the study.

The move will slow the development, in Quebec, of a potential multibillion-dollar industry. Of the 31 natural-gas wells in the province, 18 have made use of fracking technology.

"The development (of shale has) has to be done correctly, and if not there quite simply won't be any," Arcand said. "That position is non-negotiable."

The powerful shale-gas lobby in the province, headed by former premier Lucien Bouchard, has long trumpeted the economic benefits of developing the industry.

It claims it could bring \$1 billion in annual royalties to a province mired in debt, not to mention thousands of jobs.

Other provinces, including New Brunswick and Ontario, have also been exploring the technology as way to boost their energy revenues.

British Columbia and several U.S. states already have thriving natural gas industries centered around fracking.

But environmentalists have increasingly been sounding alarm bells.

They're concerned the wastewater byproduct will contribute to a litany of environmental problems, starting with contaminated groundwater.

There have been reports from the U.S. of strange phenomena surrounding shale gas — like frequent earthquakes.

Last week, in Arkansas, natural gas companies were ordered to temporarily stop injecting into wells after state authorities concluded the practice was linked to hundreds of earthquakes in the area in the past six months.

On Tuesday, the U.S. Environmental Protection Agency asked Pennsylvania regulators to increase monitoring of wastewater discharges for radioactivity from the state's natural gas drilling industry.

The New York Times recently published results of an extended investigation that revealed the wastewater may be more radioactive than previously thought.

While the Quebec government was waiting for the study, exploratory wells near Quebec City were found to be leaking gas, which amped up calls for a moratorium.

"We've been asking for a moratorium on exploration for a very long time," said Sidney Ribaux, executive director of the environmental group Equiterre.

"And it seems like the government, finally with this report that's just been published, has come around to our point of view."

Following a series of protests last summer, Arcand asked Quebec's bureau of public hearings into the environment to look into both the environmental and health impacts of shale-gas development.

It returned with a door-stop volume: 323 pages of analysis and recommendations to the government about how to balance competing interests.

It suggested that future shale-gas development seek input from local governments and be more transparent about the liquid solution it pumps into the ground.

Arcand called it the most important report in the 33-year history of the Bureau d'audiences publiques sur l'environnement, commonly known as the BAPE.

Quebec government releases shale gas report

CTV Montreal
March 8, 2011

The future of shale gas test sites like this one near Quebec City depends on the government's position.
(CTV File Photo)



MONTREAL — The Quebec government has released a much-anticipated environmental report on the province's shale gas industry this afternoon in Montreal.

After meeting 24 times since early October, the province's environmental review board, called the *Bureau d'audiences publiques sur l'environnement* (BAPE), released the 300-plus page report.

It recommends carrying out further environmental assessments prior to proceeding to develop the shale gas industry.

The report describes the assessments as an "obligatory passage to develop shale gas and ensure social acceptability."

The environmental assessment would evaluate the impacts and environmental risks, thresholds of acceptability and appropriate mitigation methods.

During the period of this study the industry could continue but without hydraulic fracturing, or fracking as it is sometimes known.

Such a strategic assessment usually lasts a year or two, officials noted. Any operations would not likely begin prior to 2015.

The BAPE also suggested that another consultative committee be appointed consisting of scientists, government officials and academics.

Provincial Environment Minister Pierre Arcand responded briefly to the report to say that the province will accept and study the recommendations.

Arcand had asked for the BAPE to prepare a report in August, as public opposition to the industry grew.

The review board's mandate was to suggest the best way to manage the industry while respecting the environment; it wasn't to rule on whether or not exploration should continue.

Shale gas is extracted by blasting chemicals, sand and water into deep, underground wells through a process called hydraulic fracturing -- or fracking.

Residents and environmentalists have expressed concern about potential water contamination, excessive water use and threat to local agriculture.

But Quebec's oil and gas industry says the risks are slight compared to the huge economic benefits the industry could bring.

Quebec is home to one of the largest shale formations in North America, and supporters of the industry say it could bring \$1 billion in annual royalties to the province.

At least 600 shafts have been drilled since exploratory drilling began largely unnoticed in 2008, and there are about 30 functional exploratory wells right now in Quebec.

Public hearings were conducted in the fall in regions where shale gas exploration is taking place.

While that process was underway, a number of gas leaks were detected from exploratory wells, further fueling the debate.

Inspection records from the natural resources ministry showed 19 wells had problems and were asked to deal with gas leaks, exposed pools of waste water and missing safety equipment.

Meanwhile, there have been reports from the U.S. of strange phenomena surrounding shale gas -- such as frequent earthquakes.

Last week, in Arkansas, natural gas companies were ordered to temporarily stop injecting into wells after state authorities concluded the practice was linked to hundreds of earthquakes in the area in the past six months.

On Tuesday, the U.S. Environmental Protection Agency asked Pennsylvania regulators to increase monitoring of waste water discharges from the state's natural gas drilling industry.

For months, opposition parties and critics have called for a moratorium on exploration, but the Charest government has resisted.

The BAPE report was handed over to the government last week and the province was given up to 60 days to respond.

What Would Jesus Drill?

Quebec Christian Organizations Oppose Shale Gas Exploration

Meagan Wohlberg
The Link
March 8, 2011

Christian organizations in Quebec joined the growing mobilization calling for a moratorium on shale gas exploration last week.

The Réseau oecuménique Justice et Paix, along with the Bishop's office of the Montreal Anglican Diocese, are denouncing what they say is the government's "ungodly" pursuit of economic gain at the expense of public and environmental safety.

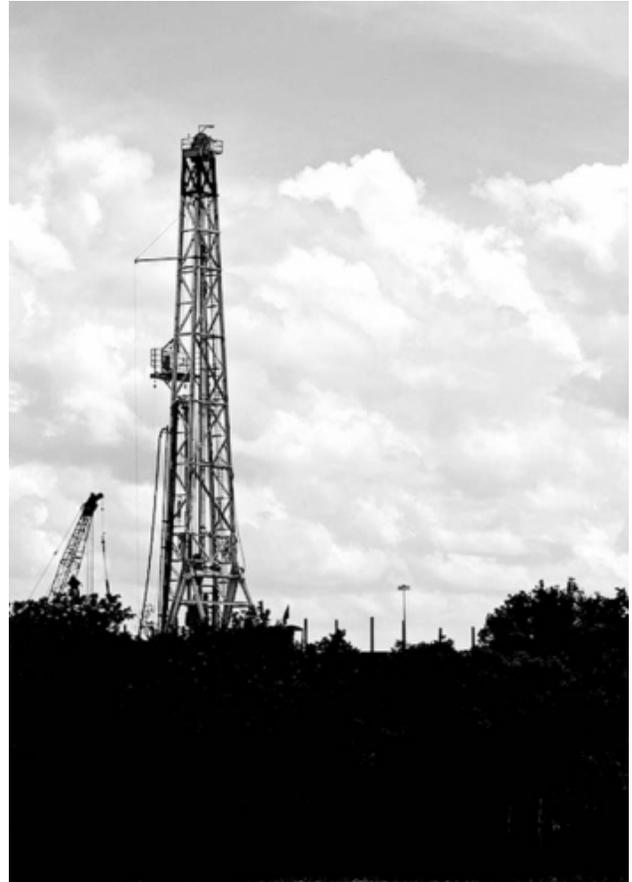
"It is our ethical conviction that the right of people to their well-being and to the health of their territory should take precedence over privileges granted to industry by the state," the 28 member organizations of ROJeP stated in a press release. "To show contempt to the land is to despise the people that inhabit this land."

The Bureau d'audiences publiques sur l'environnement recently published an environmental impact report on hydraulic fracturing, or "fracking," but Quebec's Minister of Sustainable Development Pierre Arcand has yet to publicly release the results of the inquiry, which began late last summer.

A parallel report issued by a citizens group calling themselves Maîtres chez nous 21e siècle was released to Minister Arcand last Monday. Based on 200 documents, the 123-page online report calls for a stop to fracking in Quebec, noting that shale gas is not economically viable and does not meet standards for clean, sustainable development.

Among the 200 documents reviewed within the Maîtres chez nous report was a cost analysis from l'Institut de recherche et d'information socio-économiques, which estimated more than \$50-million per year in losses for the province of Quebec from the shale gas industry.

"The raison d'être of the government is to look after the public interest and not be enslaved to industry," said Guy Côté, a representative from ROJeP. "There is a lack of transparency and the government has acted without sufficient evaluation of all the consequences. There is almost a despising for people's concern because of the priority given to the economic growth falsely expected from this project."



The ecumenical network's recent announcement is part of a growing opposition to fracking across the province.

According to a recent survey of 1,000 Quebecers conducted by Le Devoir, 55 per cent are against drilling for shale gas—up from the 37 per cent last September. More than 128,000 people have signed an online petition calling for a moratorium on development.

“More and more controversy is arising,” said Reverend Gwenda Wells of the Anglican Diocese. “But despite the fact that there are rising concerns about radioactivity in groundwater, no studies have been done on the water leaking from shale gas fracking [in Quebec].”

The New York Times recently obtained documents showing that waste-water resulting from fracking is “often laced with highly corrosive salts, carcinogens like benzene and radioactive elements like radium,” which, when discharged into rivers that supply drinking water, contain higher levels of radioactivity than can be safely treated. New York state imposed a moratorium on fracking last year.

Geraint Lloyd, a geophysicist and independent consultant on drilling within the St. Lawrence Valley, told *The Link* in September that risk of groundwater contamination was low due to an incredibly high water-to-chemical ratio, the depth of drilling and the non-porous nature of the shale rock.

“Any sort of failure or contamination issue comes down to engineers, not the procedure,” he said. “With the high safety standards in Quebec, I can't see this being an issue.”

But the Charest government's stance has shifted considerably over the last six months since two thirds of the 31 existing exploration shafts were found to have leaks. In mid-January, Minister Arcand admitted that “the industry is not in control of the situation” and that he was “extremely concerned.”

“The government is responsible for being a good steward of the resources entrusted in its care,” said Rev. Wells. “Its responsibility as an elected caretaker organization is to make sure development is not approved if there is reasonable doubt that it is not safe for humans and the environment.”

An estimated 40 billion cubic feet of shale gas reserves exist in Quebec with the potential to sustain the province's energy needs for the next 200 years, according to the Department of Natural Resources.

This article originally appeared in *The Link* Volume 31, Issue 25, published March 8, 2011.

Government's just buying time

KEVIN DOUGHERTY

Montreal Gazette

March 9, 2011

The Charest government was left with no other choice yesterday but to put the brakes on shale-gas development in the province.

But in releasing a report on the environmental and health impacts of shale gas, that even its authors admitted left many questions unanswered, Environment Minister Pierre Arcand did not bend to opposition demands for a shale-gas moratorium.

People living in a broad swath of Quebec, between Montreal and Quebec City, where the Utica shale-gas formation runs under populated and agricultural areas, loudly protested against shale-gas development.

Instead of a full stop in the murky process of fracturing underground rock to extract trapped gas, Arcand indicated the government is just slowing down, buying time, with the goal of pushing ahead with what it conceives as safe shale-gas extraction.

New regulations to tighten control over shale-gas exploration would be adopted quickly, Arcand said, and he set a "June or July" deadline for a new committee of experts he will name to study the unknown hazards of fracking and the waste water it generates.

Questions about gas leaks into the air and groundwater have also been raised.

The recurring theme in the 323-page Bureau d'audiences publiques sur l'environnement report: scientific evidence on fracking is "insufficient or nonexistent." The BAPE concluded that a "strategic environmental evaluation" was needed - and while that evaluation was undertaken, it proposed that only fracking required for the new study be permitted.

The BAPE also noted that a major piece in the shalegas puzzle, a two-year study by the U.S. Environmental Evaluation Agency of its impact on water, would only be ready in 2012.

After announcing no new drilling and fracking only for "scientific" purposes, Arcand turned around and said that continued fracking would be allowed at the 18 shale-gas wells in the province that have already been fracked, and new fracking could go ahead at another 13 wells that have been drilled but not yet fracked.

The opposition parties in the National Assembly plan to study the BAPE report before giving their reaction today. The Association pétrolière et gazière du Québec, representing the shale-gas companies, is also taking its time.

"We will analyze the report and discuss it with our members before taking a position or reacting to its content," said Lucien Bouchard, the former Quebec premier and one-time federal environment minister who now is spokesperson for the shale-gas companies.

Most of the opposition to shale gas has come from people living in areas where exploration is underway.

Serge Fortier is spokesperson for a citizens committee that grew from Lotbinière and Bécancour to include communities closer to Montreal as well. Fortier noted Arcand's argument that Quebec is ahead of other places where shale gas is being developed, because it ordered the BAPE report.

"If the citizens had not raised objections, there would never have been a BAPE," Fortier said, recalling near-rioting at conferences the shale-gas association held last summer to present their case that shalegas drilling was safe, despite evidence in the United States of gas and toxic chemicals in the fracking soup entering the environment.

Fortier said the BAPE report took those citizen concerns seriously. But he is disappointed with Arcand's eagerness to push ahead with "sustainable development" of shale gas anyway.

"I don't see a real change," Fortier said, adding that Arcand's proposal for "scientific" fracking as part of the evaluation process makes no sense. He pointed out that "thousands" of shale-gas wells have been drilled in Pennsylvania, a state where shale-gas development is advanced.

"Why do more?" Fortier asked.

PESTS sour on fracking, want inquiry

Environmental group is concerned about the potential dangers of the gas released in northern B.C

Ben Parfitt
Vancouver Sun
March 9, 2011

Early last year, an army of workers at a remote natural gas operation in northern British Columbia set a world record for hydraulic fracturing or "fracking," a procedure that is rapidly becoming the norm in the global gas industry.

They pumped nearly 400 Olympic swimming pools worth of water along with 500,000 kilograms of sand underground to fracture deeply buried shale rock, thereby releasing its trapped gas.

As fracking becomes more common, people living in natural gas-rich northeast B.C. are increasingly alarmed over the associated public health and safety risks.

The pressure at which water, sand and undisclosed chemicals is pumped below-ground is so intense that it triggers tiny earthquakes. In using such brute force, unforeseen and unwelcome problems can - and do - surface elsewhere, problems that may include dangerous releases of gas containing hydrogen sulphide, also known as sour gas.

Long before fracking arrived on the scene, the health threats posed by chronic exposure to sour gas with low levels of hydrogen sulphide were well known and ran the gamut from irritated eyes to miscarriages. But it was the uncontrolled releases of gas containing 300 parts per million or more of hydrogen sulphide that filled people living in B.C.'s Peace River region with dread. Such releases killed or seriously injured industry workers; caused deaths, birth defects or miscarriages in cattle; forced people to abandon their homes by dead of night; and led at least one school district to station buses outside an elementary school in case sour gas escaped from a nearby well site, forcing an emergency evacuation.

These and other uncomfortable realities of living in the heart of B.C.'s natural gas development zone, recently prompted a local citizens group -the Peace Environment and Safety Trustees Society (PESTS) -to call upon the provincial government to launch a formal inquiry under B.C.'s Health Act to delve into the health risks associated with sour gas. The justification for such an inquiry was laid out in chilling detail with the assistance of Calvin Sandborn, at the University of Victoria's Environmental Law Clinic, and Tim Thielmann, an environmental lawyer.

The initiative has since snowballed. Letters of support for an inquiry have come from the Peace River Regional District, public health officers, first nations and others. A common refrain in the correspondence is that when it comes to key decisions on oil and gas industry activities -for example, the locating of gas wells and pipelines that can release toxic gas -public health officials are cut out of the loop. Yet it is they, and the public they serve, who are forced to respond when things go wrong.

Things most decidedly did go wrong in November 2009, when failed piping at a gas well in the Peace region spewed 30,000 cubic metres of gas into the air. Hydrogen sulphide levels in the escaping gas were six times above lethal levels. The estimated eight-hour gas leak forced the evacuation of 18 residents living near the community of Pouce Coupe, killed a horse and resulted in at least one emergency hospitalization.

B.C.'s Oil and Gas Commission (OGC), which approved the well owned by Encana Corporation, later concluded that frack sand corroded the pipes and caused the potentially fatal leak.

Over the past three decades, at least 34 workers in B.C. and Alberta have been killed in sour-gas related incidents and hundreds more disabled. By sheer luck, massive uncontrolled sour gas releases in B.C. have often occurred far away from local communities. In 2003, residents near Gao Qiao, in Chonqing, China, weren't so lucky. A sour gas leak there forced the evacuation of 64,000 residents and killed 243 people in what became a 25-square-kilometre death zone.

Escalating fracking activities increase the likelihood of such leaks. As a recent OGC "safety advisory" notes, high-pressure fracking operations have on at least 18 occasions resulted in what are euphemistically called "communications" between northern B.C. gas wells.

What this means is that fracking at one well causes unwanted problems at another. In one such event, the same type of corrosive frack sand linked to the Pouce Coupe disaster was blown between two gas wells spaced 670 metres apart.

Under the circumstances, members of the Peace Environment and Safety Trustees Society should be lauded for being "pests." By highlighting the public health and safety risks associated with sour gas, they may force the provincial government to do the right thing: Call an inquiry that is clearly in the public interest, but most particularly in the interests of the women, children and men who call the Peace River region home.

Ben Parfitt is a resource policy analyst with the B.C. office of the Canadian Centre for Policy Alternatives and author of *Fracture Lines: Will Canada's Water be Protected in the Rush to Develop Shale Gas?*, a report for the Program on Water Issues at the Munk School of Global Affairs.

Mixed reaction to imposed shale freeze

JAN RAVENSBERGEN
Montreal Gazette
March 9, 2011



(Left to right) Jacques Locat, Nicole Trudeau, Pierre Fortin, and Michel Germain begin the opening statements during the public hearings by the Bureau d'audiences publiques sur l'environnement (BAPE) on the shale gas industry held at the Hotel des Seigneurs in St. Hyacinthe, 60 kilometres east of Montreal on Monday, October 4, 2010. Photograph by: Dario Ayala, THE GAZETTE

MONTREAL - A freeze imposed across Quebec on the shale-gas industry for the next two years responds positively to "95 per cent" of the environmental and other objections that had been raised by Equiterre and a large cross-section of other groups, Sidney Ribaux said yesterday.

"We're happy," added Ribaux, Equiterre's executive director: "It's a wise decision."

The BAPE report was released at 4 p.m.

"About a year ago, we came out with recommendations that are exactly what the government is saying now," Ribaux said, reacting to Environment Minister Pierre Arcand's announcement. He noted that he had not had time to fully digest all the details in the 323-page report.

Arcand announced a freeze on hydraulic fracturing, also known as fracking, while environmental-impact studies are conducted.

Ribaux described this halt as, "for all practical purposes, a moratorium" on fracking.

A broad spectrum of groups had argued, he added, that the industry had begun fracking "without the proper studies."

The minister said his latest figures show 31 shale-gas exploration wells have been drilled in Quebec - and that 18 have thus far been fracked.

A few more might be fracked and monitored for the detailed environmental-impact study recommended by BAPE and now poised to proceed, Arcand suggested.

"We sensed, from the beginning, that there was a debate within the government, among the experts at the government and in the different departments.

"And what we see today is that the ones who are thinking about the long-term, their opinions prevailed.

"This is good news." Denis Hamel, vicepresident (public affairs) of the Fédération des chambres de commerce du Québec, said he was "not surprised" by the government's general adoption of the BAPE report.

Hamel agreed with Ribaux on one core element: He said the prime practical effect is "a de facto moratorium" on the industry for the duration of the scientific study, although, Hamel noted, "they didn't use the word moratorium." Hamel suggested this freeze could last "between 18 and 24 months."

"We were hoping," Hamel said, "that the delay ... would be shorter."

The report, he added, represents "a colossal amount of work that did not go in the direction for which we wished."

No moratorium - Quebec 'cautiously' delays drilling

Exploration put on hold until in-depth industry assessment is done

MONIQUE BEAUDIN
Montreal Gazette
March 9, 2011

Environment Minister Pierre Arcand promised yesterday to "answer all the questions" on shale-gas exploration in Quebec.

Photograph by: ALLEN MCINNIS THE GAZETTE, The Gazette



It's not exactly the moratorium that thousands of citizens had asked for, but shalegas operations in Quebec are going to be severely curtailed for the next year, perhaps longer, Environment Minister Pierre Arcand said yesterday following the publication of a much-anticipated report into the future of the shalegas industry in Quebec.

An in-depth strategic environmental assessment - which could take up to two years - will be conducted into the impact of shale-gas drilling, Arcand told reporters in Montreal. It will look into issues such as the treatment of waste-water from drilling sites, and the "harmonious coexistence" of citizens and the industry, he said.

While that study is being done, the only new shale-gas drilling that will be allowed in Quebec will be to collect information for the study, he said.

"The conclusion of the report is clear: the lack of knowledge (about shale gas) requires the government's close supervision, and to proceed very cautiously," Arcand said.

"Quebecers have to know we will not compromise, we will take the time needed to answer all the questions."

Further study was the main recommendation of the 323-page report from the Bureau des audiences publiques sur l'environnement, which spent six months studying the issue.

After holding public hearings, visiting well sites in Quebec, Canada and the United States, and reviewing submissions from nearly 200 organizations and groups, the four commissioners concluded

there is a lack of information about the impact of shale-gas production on air quality, water supplies and the communities around drilling sites.

"For certain fundamental questions, the answers are only partial or nonexistent," the BAPE commissioners said. In order to make an educated decision, and to make the development of the shalegas industry in Quebec more socially acceptable, more information is needed, they added.

It's rare for the government to order a strategic environmental assessment. In September, Natural Resources Minister Nathalie Normandeau announced a ban on oil and gas drilling in the St. Lawrence River between Île d'Orléans and Anticosti Island following the recommendation of a strategic environmental assessment.

Arcand said the government will follow the recommendations of the shale-gas study, which will be done by a committee made up of scientists, government, municipal and industry representatives, as well as other experts. A preliminary committee of five to ten people will begin its work by the end of the spring, he said.

It's up to that committee to decide whether to allow any new drilling or hydraulic fracturing or "fracking" - the process where thousands of litres of water, mixed with sand and chemicals, are injected into a well at high pressure to break up the rock and let the natural gas escape.

Quebec's major shale-gas deposits are in the area south of the St. Lawrence River, between Montreal and Quebec City. Thirty-one shale wells have been drilled there, and hydraulic fracturing has been done at 18. Arcand said that fracturing will be allowed at the existing wells.

The industry has already invested \$200 million in Quebec, the BAPE report notes. The government estimates that shale gas could bring in \$21 billion in revenues and create 6,100 jobs.

The BAPE recommended an increased role for municipalities and local communities when it comes to allowing shale-gas drilling. No new drilling will be allowed without public consultation, Arcand said.

In the short term, the government will also tighten some rules governing shalegas drilling, another of the report's recommendations.

Oil and gas companies will have to make public the list of chemicals they use in the fracking fluid they inject into their wells, Arcand said. Some companies have already made that information available on a voluntary basis, but now they will have no choice, Arcand said. Chemicals that pose a risk to human health or the environment, or whose impacts are not known, will be restricted.

Quebec will continue the increased inspections it began at wells last fall, require more information about the composition of waste water from drilling operations, and closely examine companies' business plans to determine their environmental impact. The province will also set up a centralized system for shale gas-related complaints, and an inspection system for underground water supplies, Arcand said.

The BAPE report contained more than 100 recommendations, and Arcand said most of them will be followed. He could not say yesterday which recommendations the government would not follow.

As the BAPE commissioners did their work, opposition to shale-gas drilling grew. A poll conducted in February found that 55 per cent of Quebecers opposed drilling, and three-quarters of respondents said they wanted a moratorium. More than 128,000 people signed a petition calling for a moratorium.

While initially very supportive of the shale-gas industry, the Quebec government has changed its approach in recent weeks as news of leaks at gas wells made headlines.

In January, Arcand stepped up inspections at well sites, saying he was "extremely preoccupied" by the leaks. The industry was "not in control of the situation," Arcand said at the time.

MAIN THRUST OF THE BAPE REPORT: MORE THOROUGH STUDIES NEEDED

While shale-gas drilling has been done in the United States since 1993, there are serious gaps in understanding its impact on air, water and the environment, the commissioners said.

The BAPE recommended the long-term study look at whether, on a socio-economic basis, shale gas should be produced in Quebec and how to maximize revenues from its production; the environmental impact and risks of shale-gas development and how to minimize their impact; improving regulations for the environmental assessment of gas exploration and production in the St. Lawrence River valley, and elsewhere in Quebec, and whether to create a scientific body to continue to collect data and update regulations as the industry evolves.

Quebec sold its shale exploration rights at a fraction of the price of places like Alberta and British Columbia, the report says. It recommends instead going to auction to get more revenue. It also says predictions about economic spinoffs from shale-gas production vary wildly, but new revenue should go to Quebec's Fonds des générations for the benefit of future generations.

Municipalities must be involved in the planning and development of shale activities on their territories, the BAPE said.

Better coordination between the Natural Resources and Environment ministries is needed, the BAPE says.

The current regulatory framework is "compartmentalized" between the two, preventing integrated surveillance and control from taking place, it says. The environment ministry should authorize shale-gas exploration and production in order to examine environmental issues associated with those activities, the report says.

The BAPE's report can be read at www.bape.gouv.qc.ca

Charest dodges shale-gas bullet with de facto moratorium

RHÉAL SÉGUIN

QUEBEC— Globe and Mail

March 9, 2011

The Quebec government needed to buy time on the controversial development of the shale gas industry and that's exactly what the environmental assessment report released this week has done.

It stopped short of recommending a moratorium on the future of shale gas exploration. But in fact the recommendation calling on the government to stop issuing exploration permits that allow hydraulic fracking of rock formations amounts to just the same.

For community leaders, environmentalists and opposition members, it was an important victory. For the industry and Premier Jean Charest's government, it was a much-needed reprieve from all the criticism leveled against them.

Over the next 30 months, a full environmental impact study will be conducted and exploration will be put on hold. That's the price the industry is willing to pay after bulldozing its way into communities to drill for natural gas – and in the process triggering a heated debate with local residents. Health and safety concerns quickly overshadowed all industry promises of the economic windfalls the development of shale gas would provide communities.

For the gas industry, the timing couldn't have been worse to count on its close ties to the Quebec Liberal Party to protect its interests. Former top Liberal officials joined the oil and gas lobby at a time when Quebecers became increasingly suspicious of a government embroiled in allegations of corruption involving the construction industry.

It explains in part why the industry turned to a former Parti Québécois premier, Lucien Bouchard, to act as its chief spokesman. The industry needs to sharpen its public-relations skills and Mr. Bouchard will be an important asset if companies want to pursue plans to develop shale gas reserves when prices begin to climb in the coming years.

In the meantime, the Charest government can breathe a sigh of relief: It won't have to fend off angry voters worried about the contamination of their underground drinking-water supplies as well as potential drilling waste discharged into nearby rivers.

Instead, the controversy has been handed over to a committee of experts for further study. And its recommendations won't be made until long after the next election is fought.

Shale gas play a no man's land in Quebec

BERTRAND MAROTTE

Globe and Mail

March 9, 2011

Players in Quebec's nascent shale gas industry are nervously sorting through the provincial government's decision to freeze further exploration using the controversial drilling technique known as hydraulic fracturing.

Quebec is putting fracturing on hold until a full study into the environmental effects is completed. The process could take up to 30 months, an eternity for oil and gas companies making decisions on development commitments.

Concerns are mounting that a prolonged delay could seriously hurt the prospects for establishing a multibillion-dollar natural gas extraction industry in Quebec, and send some exploration companies to jurisdictions less fraught with political and regulatory risk.

Environmentalists, community groups and residents have raised an outcry over the shale gas projects, saying there are many documented cases in the U.S. and elsewhere that hydraulic fracturing can result in contaminated groundwater, air pollution and other problems. The so-called "fracking" process uses a mixture of water, sand and chemicals injected into shale rock formations under high pressure to release and pump natural gas to the surface.

Investors in some junior exploration companies that are betting big on the Utica shale gas play in Quebec ran for the exits in droves Wednesday after digesting the news of the halt on fracturing-based shale gas exploration in the province.

Shares in Calgary-based Questerre Energy Corp. ([QEC-T](#)1.16-0.04-3.33%)— a key player in what's known as the Utica shale play along the Lowlands of the St. Lawrence River — plunged 24.5 per cent on the Toronto Stock Exchange Wednesday. Quebec City-based Junex Inc.'s ([JNX-X](#)0.91-0.09-9.00%) stock sank 20 per cent on the TMX Venture Exchange, while shares in Gastem Inc. ([GMR-X](#)0.18-0.02-9.76%) of Montreal plummeted 21 per cent, also on the Venture exchange.

The freeze on the use of fracturing is a "pretty significant" development, says Ken Chernin, a research analyst with Jennings Capital in Halifax.

"There is a lot of uncertainty. This could mean 24 to 30 months before we actually have any legislation" on the rules for shale gas development in Quebec, he said.

The uncertainty and the delay could result in some companies abandoning their projects in the province and seeking greener pastures elsewhere, Mr. Chernin said. "It's a possibility. Absolutely," he said. "I wouldn't be surprised at all if they start looking at other areas."

Norma Kozhaya, chief economist at the employers' group Conseil du patronat, agrees.

“There is a risk. The onus is on the government to move speedily ahead with its environmental evaluation and ensure that this does not go on for an eternity so as to discourage industry,” she said.

It’s important at this stage for the government to clearly lay out what is expected of natural gas developers in terms of rules and regulations so that they can make their business and investment decisions accordingly, she said.

Denis Hamel, a spokesman for the Federation of Quebec Chambers of Commerce, urged the Quebec government to move speedily with the study lest it risk losing out in the highly competitive race for shale gas development, with rival jurisdictions including British Columbia, Alberta and some northeastern U.S. states.

“The question is, will [the Quebec government] have the political courage” in the face of strong, grassroots anti-fracking public opposition, he said.

Officials at the exploration companies are not commenting on the matter for now.

“There will be a response in due course, most likely from the Quebec Oil and Gas Association,” said Talisman Energy Inc. spokeswoman Phoebe Buckland.

Calgary-based Talisman is a partner with Questerre in shale gas exploration projects in Quebec.

The association is headed by former Quebec premier Lucien Bouchard, who is expected to comment on the government’s move early next week.

The discovery of huge natural gas reserves locked in rock deep beneath the rolling farmlands and towns on the south shore of the St. Lawrence River has attracted a bevy of oil and gas companies. Here are three high-profile players:

The explorers

Questerre Energy Corp., Calgary

Last year, Questerre unveiled preliminary results indicating that the so-called Utica shale gas play in Quebec is among the top 10 shale fields on the North American continent. But Questerre chief executive officer Michael Binnion has been taking a cautious approach lately. Earlier this year, Questerre put on hold two major projects, saying it’s willing to wait until clearly established rules for development are in place. Mr. Binnion has also been an outspoken critic of what he calls media distortion, which he says has unnecessarily fuelled public fears.

Gastem Inc., Montreal

The junior exploration company was one of the early believers in an extensive shale gas play in the St. Lawrence Lowlands of Quebec. It holds exploration and storage rights to more than 445,000 hectares of land in the Lowlands as well as conventional reserves in the Gaspé Peninsula and Magdalen Islands. The company claims it was the first to target the Utica shale formation when it drilled two wells in the Yamaska region in 2007.

Junex Inc., Quebec City

A junior exploration firm that holds exploration rights on more than 2.5 million hectares of land in the Lowlands. Like other juniors, including Gastem and Questerre, it seeks partners to share the risk. It holds minority interests in two other Quebec oil and gas companies, Petrolia Oil & Gas Ltd. and Gastem.

Quebec whistleblower website launches without a leak

RHÉAL SÉGUIN

QUEBEC CITY— Globe and Mail

March 9, 2011



Quebec has its very own whistleblower website with the launch of QuebecLeaks – all it needs now is a whistleblower.

Like its international forerunner WikiLeaks, the Quebec-based organization has set its sights on keeping governments on their toes by publishing secret or classified documents from anonymous sources who may fear retribution for going public with sensitive information.

“It has become more and more difficult for journalists to do their job,” said QuebecLeaks spokesman Luc Lefebvre in an interview. “Major portions of government documents obtained through access to information laws are often deleted. And in the end the population isn’t getting all the information it should.”

He said the organization received three documents but decided against publishing any of them.

“Documents have to meet three criteria. They need to be authentic, contain sensitive information and be exclusive to QuebecLeaks. They met the first two criteria but they weren’t exclusive so we didn’t publish them,” Mr. Lefebvre said.

With the launch Wednesday lacking in a blockbuster leak, the media instead focused attention on Mr. Lefebvre’s political background as a former Parti Québécois member in a local Montreal riding association where he briefly served on the executive.

Mr. Lefebvre, 28, said he quit the party last year over his criticism of Pauline Marois’s leadership as well as the lack of transparency within the PQ.

“I can’t see how [my PQ membership] can hurt the organization’s credibility,” Mr. Lefebvre said. “I’m only one member. We have people who share different political views and that’s not an issue. What is important is that all of us share a common goal of wanting governments to be more transparent and to be part of a social activist group.”

He explained the decision to create QuebecLeaks with a friend was prompted by Premier Jean Charest's refusal to launch a full public inquiry into allegations of corruption in the province's construction industry and unethical government practices.

He said he made several unsuccessful attempts to contact the founders of WikiLeaks to seek their advice, but later got help from OpenLeaks, the site created by former WikiLeaks members.

The Quebec group also received the backing of Birgitta Jonsdottir, member of the Icelandic Parliament who worked with WikiLeaks founder Julian Assange in setting up the international media organization.

Mr. Lefebvre said he understands the consequences of becoming the public spokesman for QuebecLeaks. He said he expects to be asked to leave his job at the Couche-Tard chain of convenience stores, where he works in the web marketing division. "I don't think my employer will want to be associated to what we do here," he said. "It's the price I'm willing to pay."

He said QuebecLeaks is made up of about 30 people who work in clusters of small groups with only a few knowing the identity of the other members. Mr. Lefebvre added that journalists, lawyers, financial analysts, computer experts and engineers are part of the organization's teams.

A number of provincial ministries and federal departments have attempted to seek more information about the group, including the Department of National Defence, he said.

"If anything that's a sure sign that we are making some officials nervous."

QuebecLeaks attempted to get a copy of the Quebec Environmental Assessment Board's report on the controversial shale gas development in Quebec but didn't succeed. However, its efforts may have prompted the Charest government to release the report on Tuesday, much earlier than expected. Quebec Environment Minister Pierre Arcand acknowledged that he moved quickly to release the report for fear that it was going to be leaked to the media.

Quebec shale-gas players plunge on exploration halt

John Morrissy
Financial Post
March 9, 2011

Environment Minister Pierre Arcand releases the BAPE report into the development of the shale-gas industry in Quebec during press briefing in Montreal on Tuesday.

Photograph by: Allen McInnis, The Gazette



OTTAWA—Shares in junior energy firms involved in Quebec’s shale-gas development were hit hard in early trading Wednesday after the provincial government put a halt to exploration work following the release of a report Tuesday recommending it do so.

Questerre Energy Corporation was off 22.78%, or by 35 cents, to \$1.23, while Junex Inc. was down 20 cents, or by 16%, to \$1.05 and Gastem Inc. was down by five and half cents, or 21.15%, to \$0.205.

On Tuesday, the Quebec government said it is putting the brakes on shale-gas drilling and exploration in the province, following the release of a special committee report saying such work should be delayed until the government can do a strategic environmental evaluation.

Calgary-based Questerre holds more than 1 million gross acres in prospective areas in the St. Lawrence Lowlands in Quebec, according to a Bloomberg report. The company last year raised \$128-million in equity to finance the development of its Utica shale find in the area.

No hydraulic fracturing — in which a mixture of water, sand and chemicals is injected into the ground at high pressure — should be allowed while the study is being carried out, unless it is for research purposes, said the four commissioners who prepared the report for the Bureau d’audiences publique sur l’environnement (BAPE).

The subject has become a matter of intense public debate in recent years as drillers began work on shale-gas deposits in the St. Lawrence lowlands.

“For certain fundamental questions, the answers are only partial or nonexistent,” the report said. “Such an evaluation is a necessary step, in order to make an informed decision” and in order to make the development of a shale-gas industry more socially acceptable, the commissioners added.

Quebec Environment Minister Pierre Arcand released the 323-page report, prepared by the BAPE, in Montreal on Tuesday. The study being called for can take two years to complete.

Arcand announced Tuesday that no new drilling would be allowed for shale gas without local approval. The minister also announced he has accepted the BAPE recommendation and will order a strategic environmental evaluation of shale gas.

Questerre plunges on Quebec shale drilling ban

Reuters

March 9, 2011

Questerre Energy Corp shares fell as much as 25 percent on Wednesday after the Quebec government halted shale gas exploration in the Canadian province.

Shares of Questerre, which is focused on developing its Quebec shale gas discoveries, were down 37 Canadian cents at C\$1.22 by midmorning on the Toronto Stock Exchange after earlier touching C\$1.20. Volume was 1.7 million, nearly twice the average over the past three months.

Quebec Environment Minister Pierre Arcand put a ban on new drilling after a report recommended the province needed a complete environmental assessment for shale gas development.

The only drilling that will be allowed during the moratorium will be for research purposes.

Though Quebec has some promising shale gas deposits, development of those finds has faced opposition from groups concerned that drilling will result in pollution and affect the quality of life in nearby communities.

"Ultimately, this means more delays and uncertainties in an already delayed development scenario," Grant Daunheimer, an analyst with Dundee Securities said in a research note. "Given the headlines, we may not see any material news from the play for up to 24 months."

Que. opposition parties blast shale gas decision

CBC News
March 9, 2011

Parti Québécois mining critic Scott McKay speaks in Quebec City Wednesday. (CBC)



Both of Quebec's opposition parties say the government has been improvising and wasting time on the shale gas dossier.

The parties were reacting to Tuesday's shale gas report from Quebec's environmental review board, the BAPE.

While releasing the report, Quebec Environment Minister Pierre Arcand announced a freeze on any new shale gas extraction so an environmental assessment can be completed.

But the Action Démocratique du Québec said the province is just falling further behind in developing the fuel.

"What we see here is what should have been ordered back when the industry's interest was piqued by Quebec's potential for shale gas," said ADQ leader Gérard Deltell.

Deltell says the BAPE report is proof that every time the government touches a file on sustainable development and natural resources, it's a fiasco.

He cited the case of [Mount Orford](#) and the fight over who controls the [Old Harry](#) oil reservoir near the Newfoundland-Labrador border as examples.

New mining law needed: PQ

Parti Québécois mining critic Scott McKay said it's great the government is going forward with an environmental assessment on the impact of shale gas exploitation, but it should have happened months ago.

"The Liberal government has demonstrated again and again that we cannot give them our confidence," said McKay.

McKay said the Liberals should immediately draft a new law on mines, to replace the old one, which he calls obsolete.

He said the law needs to review how exploration permits are handed out, and to ensure Quebec receives sufficient royalties when its natural resources are exploited.

Seventeen per cent of gas revenues currently go back to the province of Quebec, about half of what British Columbia and Alberta receive for their natural resources.

N.B. hydro-fracking will go ahead: company Not deterred by moratorium in Quebec

CBC News
March 9, 2011

A company planning to drill for natural gas and oil in New Brunswick isn't deterred by the Quebec government's decision to put hydro-fracking on hold until a full environmental assessment is done.

SWN Resources Canada Inc. held an open house in Salisbury Wednesday about its three-year project to explore more than one million hectares of land in the province.

Tom Alexander, general manager of SWN New Brunswick, said the company thinks there's natural gas in the province's shale rock, but wants to know for sure.

Tuesday, the province of Quebec announced the moratorium on drilling, just minutes after an environmental assessment board called for a full evaluation of potential risks involved in the drilling and extraction of natural gas from shale rock.

"We are committed to making sure that it is done properly or it won't be done at all," Quebec Environment Minister Pierre Arcand told a news conference.

Alexander said his company supports getting any new information about the process.

"Any time that you can continue to beef up your regulatory environment, and make it more protective, and incorporate new technologies, new innovations, we're for that," Alexander said.

But David Coon, executive director of the Conservation Council of New Brunswick, said the province should impose a moratorium on hydro-fracking.

"It's the government policies and processes that are lacking. That's what we need," he said. "The company's policies and processes are going to be only as good as the regulations that the government has, the standards the government has to enforce them."

Natural Resources Minister Bruce Northrup wasn't available to comment on Coon's idea.

His department said more than 65 oil and natural gas wells have been drilled in the province since 2000, and the majority were drilled using hydro-fracking.

Hydro-fracking is a process where companies pump a mixture of water, sand and chemicals into the ground, creating cracks in shale rock formations. That allows companies to extract natural gas from areas that would otherwise go untapped.

Questerre shares drop on Quebec ban

CBC News

March 9, 2011

Shares of Calgary-based Questerre Energy plunged Wednesday after Quebec ordered a halt to shale gas exploration in the province.

Questerre's stock closed at \$1.20 on the Toronto Stock Exchange, down 39 cents, or 25 per cent.

The number of shares trading hands was close to three million, more than three times their usual volume.

Questerre had been focused on developing its Utica shale gas discovery in the St. Lawrence Lowlands, between Montreal and Quebec.

Quebec's environment minister, Pierre Arcand, Monday banned new drilling after a report recommended the province needed a complete environmental assessment of the effects of shale gas development.

Only drilling for research purposes will be allowed during the moratorium.

Shale formations are exploited by using a process called fracturing, using a mixture of chemicals, sand and water to prop open subterranean fissures to increase the flow of natural gas. The practice is widely used in Alberta and northeast B.C.

Environmentalists have raised concerns that drilling will result in pollution and affect the quality of life in nearby communities.

Quebec is home to one of the largest shale formations in North America, and supporters of the industry say it could bring \$1 billion in annual royalties to the province.

Quebec shale-gas drilling needs further study

Monique Beaudin, Postmedia News
with files from Shaun Polczer, Calgary Herald
March 09, 2011

The question of shale-gas drilling in Quebec needs to be further studied, says a committee that spent the past six months looking into the industry.

The committee says the government should do a strategic environmental evaluation of shale-gas drilling. That's the kind of long-term study that was done on oil and gas drilling in the lower St. Lawrence River, which led to a ban on drilling last fall. That type of study, overseen by an expert committee, can take one to two years to complete.

No hydraulic fracturing -where a mixture of water, sand and chemicals is injected into the ground at high pressure -should be allowed while the study is being carried out, unless it is for research purposes, said the four commissioners who prepared the report for the Bureau d'audiences publique sur l'environnement.

After six months of studying the issue, the commission concluded that there is not enough information available to make educated decisions about the development of a shale-gas industry in Quebec.

"For certain fundamental questions, the answers are only partial or nonexistent," the BAPE report said. "Such an evaluation is a necessary step, to make an informed decision" and to make the development of a shale-gas industry more socially acceptable, the commissioners added.

Environment Minister Pierre Arcand released the 323-page report in Montreal on Tuesday.

Quebec is believed to have important deposits of shale gas in the area south of the St. Lawrence River, between Montreal and Quebec City. So far, 29 wells have been drilled in the area, and hydraulic fracturing has taken place at 18 of them.

The Quebec Oil and Gas Association (QOGA), which represents the shale-gas industry in Quebec, said it would not make any comment on the BAPE report Tuesday. It wants to take time to analyze the findings, the association said.

Calgary-based Talisman Energy and junior partner Quessterre Energy are among the most active players in the region.

Talisman representatives said they would wait for QOGA to respond before issuing a statement. "(The) Quebec Oil and Gas Association will now carefully review the BAPE's report and consider its recommendations. QOGA will prepare a response and make it public in due course," Talisman spokeswoman Phoebe Buckland said in an e-mail.

The Association quebecoise de lutte contre la pollution atmospherique, one of the environmental groups lobbying against shale-gas development here, said it was expecting the BAPE report to call for a moratorium on drilling.

Shale stocks take a hit in Quebec

JONATHAN MONTPETIT

Canadian Press

March 9, 2011

MONTREAL - Once touted as Quebec's economic future, the shale-gas industry now faces uncertain prospects in the province following a decision to temporarily ban its key extraction process there.

Those difficulties were underscored by a dismal day on the stock market for companies with big stakes in Quebec's nascent natural-gas industry.

Quebec City-based Junex (TSXV:JNX) saw shares drop 20 per cent while Calgary's Questerre (TSX:QEC) was down nearly 25 per cent. Montreal company Gastem Inc. (TSX:GMR-X) was also down more than 20 per cent on the TSX Venture Exchange.

Investors recoiled at the prospect of lengthy delays on future returns a day after the Quebec government announced it would examine the practise used to extract natural gas from underground shale formations.

In the meantime the government has banned any further use of hydraulic fracturing — commonly known as "fracking" — except for the purposes of its study.

Several industry analysts predict the Quebec government's decision will cause companies like Junex and Questerre to rethink their investments in the province.

"Putting a moratorium on . . . is effectively crushing the dreams and hopes and aspirations of the producers to provide for the people of Quebec," said Bill Gwozd, vice president of gas services at Ziff Energy Group, an industry think tank.

"This is a very discouraging signal."

Quebec's shale-gas industry is believed to hold considerable economic potential. Since exploration began in 2008, close to 30 wells have been opened.

The industry had been boasting of annual royalties of \$1 billion for the provincial government, which is saddled with public debt.

But now the industry will be forced into waiting mode during a government-sponsored study of fracturing that could take as long as two years.

Industry insiders say companies are unlikely to sit idly by during that time, and could explore opportunities in other parts of Canada where fracking has been underway for years.

"Companies that were, or (are), looking at investing in Quebec, I would suggest that this would force them to second-guess that and pull out," said Ralph Glass, an executive with AJM Petroleum Consultants.

"There are certainly significant opportunities in Western Canada."

Shale-gas industries have flourished in both Alberta and British Columbia over the past decade. Gwozd said those areas would be the most likely targets for any companies deciding to try their luck outside Quebec.

He said Quebec should have studied fracking practises in those provinces more carefully if it wanted a template for a more effective regulatory approach.

"It's disrespectful that they don't look left and right," he added. "Left and right these folks already have lots of energy policies in place. It already works."

Environmentalists, however, have repeatedly expressed concerns about fracking. They're worried the wastewater byproduct contributes to a litany of environmental problems, starting with contaminated groundwater.

Existing shale-gas plays in Western Canada are in sparsely populated areas. Those in Quebec, however, are located along the banks of the St. Lawrence — which is not only much more densely populated, but is also the province's agricultural heartland.

"The crux of the debate is the proximity of people," said Glass.

He suggested those residents in B.C. and Alberta who have come into contact with the industry have since grown accustomed to its presence.

"It is a fear of the unknown," Glass said. "But this fracking has been going on for a long time in Western Canada."

He conceded that the industry could always recover in Quebec. Fracking technology is expected to improve and could address some of the environmental concerns.

But even then, there remains another major obstacle: There is currently a glut of natural gas available on the market and prices have tumbled.

That problem is compounded by the lack of infrastructure that would help export Quebec's natural gas to other markets.

"There is an over-abundance of supply in North America right now; we just have too much natural gas," said Glass.

"Given the return on investment, I just don't see companies pursuing it as actively until there is a rise in the pure natural gas price."

Quebec Shale Gas Exploration on Hold

Geoff Zeiss (Between the Poles)
March 9, 2011

The Quebec Environment Minister has [announced](#) that shale gas development in Quebec has been put on hold until a full environmental study can be done on fracking. A Bureau d'audiences publiques sur l'environnement (BAPE) report has recommended a full evaluation of potential risks involved in the drilling and extraction of natural gas from the Utica shale rock formation near populated areas along the Saint-Lawrence River. The government has already approved permits for 31 drilling sites. Fracking has taken place on 18 of the sites. There have been reports of a number of violations of environmental regulations. [Natural resources inspectors](#) have discovered 11 incidences of natural gas migrating outside of shale gas wells. The report also expresses concern about the release of greenhouse gas and how the leaks could potentially contaminate aquifers or, under the right conditions, cause explosions. An additional eight wells also had leaks, but they were contained within a protective casing and did not reach the surrounding environment. An [uncontrolled leak near St-Hyacinthe](#) has been reported. The BAPE report said there was insufficient information on the impact of fracking to allow drilling to continue and recommended that the government to take the time to compile and examine the scientific data to help define stricter rules.

The [Utica shale](#) is potentially a larger play than the [Marcellus](#). To give you some idea of the potential, in 2010 alone in Pennsylvania 1386 wells were drilled to extract gas from the Marcellus. In the total US there are about half a million gas wells. The Utica shale covers a geography about twice as large as the Marcellus. The Utica lies between 3,000 and 7,000 thousand feet beneath the Marcellus but underlies parts of New York, Pennsylvania, Maryland, Virginia, West Virginia, Ohio, Tennessee, Kentucky, Lake Erie, Lake Ontario, Ontario and Quebec.

As I [blogged](#) earlier, a series of [ProPublica reports](#) has identified instances where ground water has been contaminated in drilling areas across the US and [Gasland](#) has shown examples of burning tap water and other effects attributed to fracking. The serious concerns about hydraulic fracturing's potential impact on drinking water, human health and the environment is serious enough that in the US Congress has appropriated funding for the EPA to undertake a [major study](#) of hydraulic fracturing and its impact on drinking water.

Firms shale shocked

MARKUS ERMISCH

Calgary Sun

March 9, 2010

Calgary energy firms remain mum on a decision by the Quebec government to halt shale gas exploration in la belle province for up to two years.

The decision, handed down after market close Tuesday, hit share prices when markets opened Wednesday.

A major reason for this temporary cloak of silence isn't that energy companies are loath to speak to the media.

It's just that they don't know what to say: The 300-page report is only available in French for now. A full English version of the report will only become available March 18.

Here's what happened. Quebec's potential shale gas wealth underneath the densely populated St. Lawrence Lowlands has made the province the latest frontier in Canada's quest for fossil-fuel exploration. Two Calgary companies, Talisman and Qwesterre, are among those pioneers seeking to tap into this riches.

To get to the gas, companies usually use a technology called fracking. It involves forcing water laced with chemicals into the ground to crack open the rock containing the gas.

Quebec's environmental assessment bureau studied the issue and concluded more needs to be known about the environmental implications of hydraulic fracking.

The province's government agreed and temporarily halted development of the province's fledgling energy industry.

Qwesterre's shares plunged as a result and, at one point, lost more than a third before closing at \$1.20, down nearly 25%. Talisman, a much larger company with less of a relative stake in Quebec, didn't get clobbered as badly. But it also saw its share price slide about 2% to \$22.96.

Neither company was prepared to comment Wednesday. The Quebec Oil and Gas Association also declined comment.

Quebec's shale-gas players see stocks plunge

Halt-exploration order hits hard

JOHN MORRISSY

Postmedia News

March 10, 2011

Shares in junior energy firms involved in Quebec's shale-gas development were hit hard yesterday after the provincial government put a halt to exploration work following the release of a report Tuesday recommending it do so.

Questerre Energy Corp. shed 24.05 per cent of its value, with its shares closing at \$1.20, down 38 cents, Junex was off 25 cents, or 20 per cent, to \$1, and Gastem slid 5½ cents, or 21.15 per cent, to 20½ cents.

On Tuesday, the Quebec government said it is putting the brakes on shale-gas drilling and exploration in the province, following the release of a special committee report saying such work should be delayed until the government can do a strategic environmental evaluation.

Calgary-based Questerre holds more than one million gross acres in prospective areas in the St. Lawrence Lowlands in Quebec, according to a Bloomberg report. The company last year raised \$128 million in equity to finance the development of its Utica shale find in the area.

Company spokesperson Anela Dido said the company is still reviewing the Quebec government's decision and will issue a statement on the matter within the next week or two.

"Ultimately, this means more delays and uncertainties in an already delayed development scenario," Grant Daunheimer, an analyst with Dundee Securities, noted.

"Given the headlines, we may not see any material news from the play for up to 24 months."

No hydraulic fracturing (fracking) - in which a mixture of water, sand and chemicals is injected into the ground at high pressure - should be allowed while the study is being carried out, unless it is for research purposes, said the four commissioners who prepared the report for the Bureau d'audiences publique sur l'environnement (BAPE).

The subject has become a matter of intense public debate in recent years as drillers began work on shale-gas deposits in the St. Lawrence lowlands.

"For certain fundamental questions, the answers are only partial or nonexistent," the report said. "Such an evaluation is a necessary step, in order to make an informed decision" and in order to make the development of a shale-gas industry more socially acceptable, the commissioners added.

Quebec Environment Minister Pierre Arcand released the 323-page report, prepared by the BAPE, in Montreal on Tuesday. The study being called for can take two years to complete.

Arcand announced Tuesday that no new drilling would be allowed for shale gas without local approval. The minister also announced he has accepted the BAPE recommendation and will order a strategic environmental evaluation of shale gas.

Despite report, questions on shale gas still unanswered

Fracking will continue and chances of a leak and political controversy remain

DON MACPHERSON
Montreal Gazette
March 10, 2011

A one-page, six-paragraph press release containing two commitments.

That's all the Charest government was willing to put into writing in response to the 43 observations and 101 "opinions," most of them recommendations, in the report by the BAPE, Quebec's environmental public hearings board, on sustainable development and the shale-gas industry.

And neither one of those commitments is a moratorium on further shale-gas exploration, as favoured by 75 per cent of Quebecers aware of the debate on the issue in a poll last month.

The report turned out to be more critical of the government than had been expected when the government gave the BAPE a narrow mandate to recommend not whether shalegas development should be allowed, but how it should be regulated.

Opinions differ as to whether the BAPE has forced the government to retreat or provided it with a welcome pretext for doing so.

Noticeably absent from the news conference Tuesday at which the report and the government's response to it were made public were the report's authors, forbidden by the BAPE's rules from commenting on the report, and the government's most enthusiastic supporter of shale-gas development.

It had already been some time since Natural Resources Minister Nathalie Normandeau was led gently away from the shale-gas file, babbling about cow gas, to be replaced by the soothing presence of Environment Minister Pierre Arcand.

It's a political variation on the police interrogation technique we'll call bad minister/good minister.

What isn't clear yet is how far the government has actually retreated.

Arcand said the government accepts "most" of the recommendations in the report, but only a couple of them were identified in the press release he issued.

One is to follow up on the report's main recommendation of an in-depth study called a "strategic environmental evaluation," or SEE.

That could take two years - that is, until after the next general election.

The other commitment in the press release is to allow "controlled" shale-gas development to continue, under temporary rules to be adopted soon and with new drilling authorized, although "only for the needs of the development of scientific knowledge" for the study.

It remains to be determined how strict the new rules and their enforcement will be, and whether scientific research will justify exploratory drilling by private interests for commercial purposes.

Japan has been accused of using the "scientific research" argument as a pretext to continue commercial whaling in spite of an international moratorium.

The BAPE report says that, in order to evaluate potential environmental impacts and find solutions to possible problems for the study, it would be necessary to do some drilling, "including hydraulic fracturing."

That's the controversial process, familiarly known as "fracking," used to extract shale gas, which is natural gas trapped in underground rock formations. It consists of pumping a mixture of water and chemicals, some of them toxic or carcinogenic, at high pressure through a hole drilled into the formation to fracture the rock, releasing the gas.

The BAPE report says that during the study, fracking should be authorized only as required by the study, not for exploration purposes.

But Arcand told the news conference that fracking will be allowed at the 31 shale-gas wells already drilled, including 13 at which fracking has not yet occurred.

So, whether it's for scientific or commercial purposes, shale-gas drilling and fracking will continue, though perhaps on a smaller scale.

And the possibility of gas leaks or other environmental problems and political controversies will remain.

Shale-gas report offers something for all

Montreal Gazette

March 10, 2011

Quebec's environmental review agency, the Bureau des audiences publiques sur l'environnement, has rendered a Solomonian judgment in its eagerly awaited report on shale-gas exploitation. There is something in its recommendations for all concerned: the government, the industry, and the environmental lobby.

The agency reinforced its long-standing credibility with the thoroughness of its work. It devoted six months to investigating the hotly controversial issue of shale-gas development and its contentious process of hydraulic fracturing to release gas trapped in porous rock formations. It visited well sites in Quebec, the rest of Canada and the United States, held public hearings and reviewed submissions from nearly 200 interested groups and organizations. Its 323-page report contains more than 100 recommendations.

Its principal advice - that there should be no more new shale-gas drilling except to collect information for environmental-impact studies, expected to take about two years - is close to the moratorium that environmentalists along with the political opposition have been calling for since shale gas became a burning issue over the past year. At the same time, however, it extends a lifeline to the industry in that it does not bring development of the resource to an entire standstill. Nor does it preclude future commercial exploitation of what could be a significant resource boon to the province.

The benefit for the provincial government is that it gives it a convenient and honourable way out of the sticky situation it created by encouraging full-bore shale-gas exploration operations without a thorough understanding of the environmental consequences and without exacting appropriate compensation for drilling rights. The result was a furious backlash not just from green crusaders but also concerned citizens living in potentially affected areas.

The reported potential hazards of shale-gas extraction by way of the hydraulic fracturing, or fracking, process are certainly frightening: methane-gas leakages, water tables polluted by the chemicals used in the process, the release of radioactive elements underground, and the possibility of waste water from drill sites entering rivers upstream from drinking-water plants. On the other hand, the BAPE study concluded that while there may be strong suspicions as to these hazards, they have not been conclusively proven to be an inevitable consequence of shale-gas extraction.

During the study period proposed in the BAPE report, and agreed to by the government, it will be determined by reputable experts through an open process whether the resource can be safely exploited by way of environmentally friendly technology and assiduous monitoring by public authorities.

If that turns out to be the case, it would be foolish for a jurisdiction as sorely indebted and revenue-strapped as Quebec to turn its back on the potential windfall that shale-gas development offers.

Critics demand 'complete halt' on shale-gas drilling

No more fracking; Activists plan protest against Charest

MICHELLE LALONDE
Montreal Gazette
March 10, 2011

The Liberal government's promise to study environmental impacts of shale gas before approving any new drilling projects has not stopped calls for a full moratorium on shale gas development in the province.

The province's environmental watchdog agency released a report Tuesday that raised more questions than answers and recommended the government take a much harder look at whether shale gas should be produced in the province at all before proceeding.

In response, Environment Minister Pierre Arcand promised an indepth strategic environmental assessment on the impact of shale-gas drilling, and said no new drilling projects will be approved until that assessment is complete.

But he said hydraulic fracturing or "fracking" - the process of pumping water and chemicals into a well to break up rock and force out natural gas - will be allowed to continue at existing wells as environmental impact studies are done on them.

That response was not good enough for anti-shale gas activists, some of whom are planning to attend a rally in Montreal on Saturday where they will demand Premier Jean Charest's resignation over the issue.

"There should be a complete halt on all activities of this industry," said Steve Timmins, a member of an anti-shale gas citizen's group in St. Hilaire.

"I don't think there should be any more fracking, no chemicals and water pumped into the ground; everybody in our coalition wants a full moratorium on all shale gas activity."

And in Quebec City yesterday, the Parti Québécois renewed its calls for a full moratorium on shale gas development, saying such a moratorium is the only reasonable response to the facts and recommendations laid out in the 323-page report by the Bureau d'audiences publiques sur l'environnement.

"This is what should have happened in the first place," said Scott McKay, the PQ's mining critic. "We would not be faced with such a fiasco if the Liberal government had not been totally improvising and we would have saved a lot of money and time."

PQ environment critic Martine Ouellet said the BAPE report confirms the legitimacy of concerns about risks to drinking water, contamination of water tables, methane gas leaks, air pollution and increases in greenhouse gas emissions.

"With so many risks, why did the Liberal government fool citizens and act blindly for a year, if not to line the pockets of certain individuals?" Ouellet said.

Industry representatives have not yet reacted to the BAPE report or the government response to it.

"We are carefully reviewing the report and considering its recommendations and will respond once we have had a chance to review it thoroughly," said Karen Carle, manager of public affairs for Questerre Energy Corp., one of the companies active in shale exploration in Quebec.

BC ignores Quebec's lead

VICTORIA/CKNW(AM980)

Sean Leslie

March 10, 2011

BC will not be following Quebec's lead in banning a controversial gas extraction technique.

Minister of Natural Resource Operations Steve Thomson says BC has the best regulations in the country around fracking, which involves pumping water underground to force out natural gas from shale formations. A practice Quebec has now banned pending a review, "We expect that they'll be coming to look at our regulatory structure that we have here."

But NDP Leadership candidate and former Energy critic John Horgan says fracking can cause serious water quality problems, "More importantly though, is the amount of water that's being used; and we're draining the aquifer in farming country to pay for gas extraction."

Questerre to Evaluate BAPE Report

Marketwire
March 10, 2011

CALGARY, ALBERTA



Questerre Energy Corporation ("Questerre" or the "Company") (TSX:QEC)(OSLO:QEC) reported on the release of the BAPE report in Quebec.

The Minister of Sustainable Development, Environment and Parks in Quebec, Pierre Arcand, published the report of the Commission of the Bureau d'audiences publiques sur l'environnement ("BAPE") on the development of the shale gas industry in Quebec. The 323-page report detailed its recommendations to the government and can be found at <http://www.bape.gouv.qc.ca/sections/rapports/publications/bape273.pdf>.

Mr. Arcand reported that the main recommendation is to conduct a study to assess the strategic environmental considerations of shale gas development. He focused on increasing the understanding of shale gas by all stakeholders, promoting social acceptability by consultation and enhancing the existing regulations.

The Minister confirmed the recommendations including provisions for controlled development while the environmental review is being conducted. Interim regulations will be required and developed in the short term.

In conjunction with the Quebec Oil & Gas Association, Questerre and its partners are analyzing the report and expect the Association will comment on behalf of industry by early next week.

Questerre Energy Corporation is an independent energy company focused on shale gas in North America. The Company is concentrated on establishing commerciality of its Utica shale gas discovery in the St. Lawrence Lowlands, Québec. Questerre is committed to the economic development of its resources in an environmentally conscious and socially responsible manner.

This news release contains certain statements which constitute forward-looking statements or information ("forward-looking statements"), including implementation of regulations, the results from our horizontal wells and the timing and scope of future operations. Although the Company believes that the expectations reflected in our forward-looking statements are reasonable, our forward-looking statements have been based on factors and assumptions concerning future events which may prove to be inaccurate. Those factors and assumptions are based upon currently available information available to the Company. Such statements are subject to known and unknown risks, uncertainties and other factors that could influence actual results or events and cause actual results or events to differ materially from those stated, anticipated or implied in the forward looking statements. As such, readers are cautioned not to place undue reliance on the forward looking statements, as no assurance can be provided as to future results, levels of activity or achievements. The risks, uncertainties, material assumptions and other factors that could affect actual results are discussed in our Annual Information Form and other documents available at www.sedar.com. Furthermore, the forward-looking statements

contained in this document are made as of the date of this document and, except as required by applicable law, the Company does not undertake any obligation to publicly update or to revise any of the included forward-looking statements, whether as a result of new information, future events or otherwise. The forward-looking statements contained in this document are expressly qualified by this cautionary statement.

This news release does not constitute an offer of securities for sale in the United States. These securities may not be offered or sold in the United States absent registration or an available exemption from registration under the United States Securities Act of 1933, as amended.

Southwestern Energy being sued in U.S.

Company has plans to drill for oil and gas in N.B.

CBC News
March 10, 2011

A company planning to drill for oil and natural gas in New Brunswick is being sued in the United States.

Several families in Pennsylvania are accusing Southwestern Energy of contaminating their drinking water.

The lawsuit alleges chemicals from the company's hydrofracking activities spoiled their freshwater wells.

Hydrofracking is a process where companies pump a mixture of water, sand and chemicals into the ground, creating cracks in shale rock formations. It allows for the extraction of natural gas from areas that would otherwise go untapped.

The Pennsylvania lawsuit was filed last September.

It alleges that in 2008, Southwestern Energy started hydrofracking near several homes in rural Susquehanna County.

The families maintain something went wrong and chemicals loaded with heavy metals and carcinogens entered their wells.

Their lawyer, Peter Cambs, said he can't comment about the case since it's before the courts.

He did say his firm is getting more and more inquiries as fracking becomes more popular.

"As fracking has become perhaps more cost effective and profitable for the gas companies, the gas companies are drilling in more, or at least relatively more, populated areas," said Cambs.

Cambs said his firm is representing other families in Pennsylvania in a similar case against another gas company.

The representative for Southwestern Energy in New Brunswick said he's aware of the situation.

Claims dismissed

Tom Alexander said his company doesn't use the heavy metals and carcinogens the plaintiffs claim are in their wells.

He said his company is working with the Pennsylvania Department of the Environment to confirm that.

The company held an open house in Salisbury Wednesday about its three-year project to explore more than one million hectares of land in New Brunswick.

Alexander said the company isn't deterred by a moratorium on drilling announced Tuesday by the province of Quebec. An environmental assessment board in that province has called for a full evaluation of potential risks involved in the hydrofracking process.

The future of natural gas in Quebec

Business News Network
March 10, 2011

The Quebec government recently decided to halt shale gas drilling in the province until further research is done on a controversial method of extracting gas.

Fracturing technology – known as “fracking” – involves shattering deep, underground layers of shale. The ban sent shares of gas companies in Quebec plummeting and cast a cloud over whether the industry has a future in the province.

But Josef Schachter, President of Schachter Asset Management, tells BNN that while the debate surrounding fracking may drag on for some time, ultimately, the government will be hard-pressed to avoid tapping a lucrative asset.

“They [the Quebec government] have no choice, they need the tax revenue, they need the jobs in the province and this could become an enormous asset to the province and the people of Quebec,” he says.

“Outside of urban areas and outside of water supplies for rural areas we will probably see this industry go ahead,” he says. “How long though is the problem and that’s where the market is nervous because it could drag out for a couple of years.”

Questerre Energy Corp. Stock (TSE:QEC), (PINK:QTEYF) Slumped Heavily on Release of Quebec BAPE Report

Nikolay Tomov
March 10, 2011
Stockmarket

Sometimes your efforts are doomed to end in vain. Often this is not your fault, and there is very little you can do about it. Especially when the government itself has decided to put a brake to your plans.

This is what is happening now to several Canadian companies dealing with shale gas discovery in the Quebec region. Questerre Energy ([TSE:QEC](#), [QEC message board](#)), (PINK:QTEYF) is one of these. The shares of the company were hit hard after the new Quebec BAPE report was released on Tuesday.

On the Toronto Stock Exchange (TSE), the stock tumbled down heavily by 24.5%. QEC lost 39 cents to finish the session at \$1.2 on a large turnover beating almost six times the average.

The Canadian Bureau d'audiences publiques sur l'environnement (BAPE) is an agency dedicated to public information and consultation on projects likely to have a major impact on the environment. It allows citizens to get involved in the project authorization process. This way, people can express their concerns to a neutral agency through a transparent process.

As mentioned in several financial [posts](#), the Quebec government is "putting the brakes on shale-gas drilling and exploration in the province". The four commissioners who prepared the BAPE report said "such work should be delayed until the government can do a strategic environmental evaluation".

The Quebec Environmental Minister - Mr Pierre Arcand - informed on Tuesday that no new drilling would be permitted for shale gas without local approval. The halt to exploration work in the region represents a sharp, unpleasant blow for Quebec shale-gas players, among them Questerre Energy.

Nevertheless, the company should not give up its hopes for the future. As the latest quarter statements reveal, Questerre is financially stable with no debt, rising revenue and gross profit, and \$136M positive working capital.

The company could also profit from the rise in the oil and natural [gas](#) prices, driven by the political turmoil in Libya.

Pressure Rises on Shale Gas

CHIP CUMMINS and EDWARD WELSCH

Wall Street Journal

March 10, 2010

Concerned about environmental damage, a pair of Canadian provinces have stepped up scrutiny of two unconventional means of extracting fossil fuels from the ground.

Quebec halted shale-gas extraction, while Alberta ordered tests on the environmental effects of the country's vast and growing production from its oil-sands deposits.

The two sources of fuel have become increasingly important to the U.S., especially with crude-oil prices rising amid turmoil in the Mideast. Crude oil closed at US\$104.38 a barrel, up 64 cents, Wednesday on the New York Mercantile Exchange.

Oil-sands production is expected to contribute an average of 68 billion Canadian dollars (US\$70 billion) a year to the country's economy over the next quarter-century, according to the Canadian Energy Research Institute, a nonprofit research group. That would be about 5% of the country's current gross domestic product. The country's entire industry, including oil and natural gas, contributes about 6% of GDP, according to the government.

Quebec's government late Tuesday issued its first environmental assessment of shale-gas development there. The government didn't cite specific findings but concluded more studies were needed and halted further exploration in the province, except for drilling that might help the assessment. It was unclear how long such a study might take, but industry analysts said it could be at least a year.

Shale-gas deposits are pockets of natural gas trapped in pores of sedimentary rock called shale. To get at the gas, drillers use a process known as hydraulic fracturing—or fracking—in which water, sand and chemicals are injected into the ground to force gas out. Some of the mixture is pumped back out and discarded, usually in deep wells; used in other fracturing jobs; or treated before it is reintroduced to water sources.

Shale gas has been a boon for U.S. consumers, helping to drive down prices for natural gas, which is mostly used for heating and generating electricity. But regulators recently have raised concerns over possible gas contamination of water sources and the cleanliness of treated drilling wastewater.

Pennsylvania has become a center of the shale-gas boom in the U.S. The Environmental Protection Agency this month asked Pennsylvania regulators to step up testing of treated drilling wastewater. The state has said the treated water met or exceeded federal standards. The EPA is studying the environmental impact of fracturing more generally.

John Dunn, a Houston-based energy analyst for consulting firm Wood Mackenzie said the immature state of the shale-gas industry in Quebec, which hasn't yet moved from shale-gas exploration to production, makes the government's move insignificant in terms of broader supply and demand. But it "could potentially add weight to the bigger-picture" concerns over fracturing in the U.S., he said.

The energy industry defends the process. Mike Dawson, president of the Canadian Society for Unconventional Gas, said the public overestimates the dangers of fracturing and that the procedure has been used safely for decades on hundreds of thousands of wells. "If the well is constructed properly, then you probably won't have any issues with the fracturing process," said Mr. Dawson, whose group represents shale-gas producers.

Shale-gas exploration has grown rapidly in Canada, as well as south of the border, with energy producers drawn to Quebec's deposits clustered around the St. Lawrence River and Gulf of St. Lawrence.

The move represents a setback for some of the small players that have staked out the region. Shares in [Questerre Energy](#) Corp., a small producer based in Calgary, Alberta, fell 25% Wednesday on the Toronto Stock Exchange. The company said the halt wouldn't slow its development because Questerre plans to continue drilling and fracturing as part of the Quebec government's assessment.

Meanwhile in Alberta, a scientific panel commissioned by the government there said Wednesday that previously published research showing water pollution from the oil-sands industry is inconclusive and that more study is needed.

Canada's oil sands are essentially thick mixtures of sand and thick, sulfurous oil. Separating out the oil and thinning it down for export by pipeline is costly and energy intensive. But the size of Canada's reserves and the high price of oil in recent years have triggered a development boom. Canada exports more oil to the U.S. than any other country—about 1.9 million barrels of oil a day. More than half of that oil—used in a variety of products, including fuel and plastics—comes from oil sands.

Canada's oil sands have been a major source of revenue for Alberta and the country as a whole, and provincial and federal officials have said they will work with the industry to address any environmental issues that arise.

The Alberta panel was created last fall after research by a prominent water scientist suggested that air pollution from the oil-sands industry was settling onto the ground and draining into the nearby Athabasca River. The panel said those claims were inconclusive but said the research had shown evidence of increasing concentrations of mercury in animals living near the river and of arsenic in the sediments in Lake Athabasca, which needs further study.

Alberta Environment Minister Rob Rennersaid the panel's work would be incorporated a government review of the province's monitoring system, which is expected to be complete in June. He defended oil-sands production, saying its impact on water and air quality is "minimal" and "far below the limits as far as recognized standards for air and water."

Canada Stock
March 10, 2011

Questerre Energy Corp. (TSE:QEC) percentage change fell -4.17%, to close at \$1.15 and its overall traded volume was 1.29M shares in the last trading session. QEC shares were trading within the range of \$1.14-\$1.20 while its opening price was \$1.20. The stock has a 52 week low of \$1.14 and 52 week high of \$4.50. QEC's market capitalization is \$269.25M and it has 234.13M outstanding shares. Questerre Energy Corporation (Questerre) is engaged in the exploration for, and the

development, production and acquisition of oil and gas projects, particularly shale gas in North America. Questerre has five core areas where it conducts the majority of its activity: St. Lawrence Lowlands (Québec), Greater Sierra (British Columbia), Beaver River (British Columbia), Antler Saskatchewan and Vulcan (Alberta). The St. Lawrence Lowlands (the Lowlands) are situated in Québec south of the St. Lawrence River between Montréal and Québec City. The Greater Sierra region lies approximately 100 kilometers east of Fort Nelson, British Columbia. The primary zone of interest is the Devonian Jean Marie at a depth of approximately 1400 meters. Questerre holds a 50% interest in over 23,000 acres in Beaver River Field. The Vulcan area in Southern Alberta is prospective for natural gas and oil in multiple horizons with the Mannville Sunburst formation.

Canadian Gas Association Reviewing Natural Gas Report; Emphasizes Natural Gas is Smart Energy

OTTAWA, March 10 /CNW/ - The Canadian Gas Association is reviewing the report on the sustainable development of Québec's shale gas industry that was prepared by the Bureau d'audiences publiques sur l'environnement (BAPE) and released by the Québec Government.

Natural gas is the largest form of energy produced in Canada and accounts for 30% of the energy use across the country. In November 2010, the Canadian Gas Association (CGA) made a submission to the BAPE process noting that people across the country desire an energy system that meets the needs of a growing economy and population, with minimal environmental impacts and the most efficient use of resources. Natural gas is the foundation of that system.

"Natural gas is a growing domestic resource available in all regions - including Québec; a significant provider of public revenue; an affordable energy choice; a safe and reliable fuel; a clean source of energy; and, a flexible energy partner for buildings and communities, and transportation," said Timothy Egan, President and CEO of the Canadian Gas Association. "That's why natural gas is smart energy and that's why it can be a core strategic asset for Quebecers.

The comprehensive process undertaken by the BAPE reflects concern about the resource development proceeding responsibly, protecting the physical environment, and the interests of all affected stakeholders and hopefully giving Quebecers an opportunity to realize significant economic and environmental opportunity with an even more robust energy system.

"All regions of this country have abundant energy resources of one kind or another and natural gas is a part of Quebec's robust mix," continued Egan.

CGA is the voice of Canada's natural gas distribution industry and its members are distribution companies, transmission companies, equipment manufacturers and other service providers. Today, Canadian natural gas distribution companies serve approximately 6.2 million customers - homes, businesses and industry - across Canada.

Gas fracking's burning debate

Justin Gerdes
Chinadialogue
March 10, 2011

America's shale-gas industry is booming, but as fears grow over unconventional drilling techniques, environmental regulators are struggling to keep pace. Justin Gerdes reports.

On January 17, a gas well operating on state forest lands in Ward Township, a small settlement in America's north-eastern state of Pennsylvania, [experienced a blowout](#). The rupture sent an uncontrolled plume of drilling fluids and sand surging into the air, prompting the site's operator, Canada-based [Talisman Energy](#), to shut down all of its North American wells employing the same technology.

The Ward Township well was using a drilling method called [hydraulic fracturing](#) – more commonly known as “fracking” – which, largely thanks to its starring role in Oscar-nominated film [Gasland](#), has shot onto the US public agenda. Now, concerns over its impact on water quality have prompted state and national environmental regulators to sit up and take notice. But can they move quickly enough?

Fracking involves drilling to depths of up to 2,300 metres, and then injecting a slurry comprising water, sand and a cocktail of chemicals into existing fissures in [shale deposits](#) at intense pressure. The sand props open the fractures and, when the slurry is pumped back to the surface, natural gas – freed from pores in the fractured rock – flows.

Depending on your point of view, Ward Township sits on either a geological gift or a curse. A glance at a [map](#) of the United States' major shale-gas plays (areas targeted for exploration) will tell you why. The largest blot of colour is a bulbous mass, covering 246,000 square kilometres and extending into the states of Ohio, West Virginia, Pennsylvania and New York. It is the [Marcellus Shale](#), thought to be the richest shale-gas play in the United States.

In 2008, two academics from [Pennsylvania State University](#) estimated that around 1.4 trillion cubic metres of recoverable natural gas could be extracted from the Marcellus Shale; by November that year, the [estimate](#) had rocketed to 10.3 trillion cubic metres – equivalent to roughly 15 years of US gas consumption.

Talisman mobilised: in 2010, the company invested US\$1 billion (6.6 billion yuan) in the development of wells in the Pennsylvania section of the formation. This year, it plans to drill 100 more, with production topping out at 11.3 million cubic metres per day.

Fracking is not a new concept. In the mid-1970s, the US Department of Energy [funded the first research](#) into the advanced drilling technology that would make it possible. But progress stalled until two factors – the maturation of drilling techniques and surging gas prices – aligned at the end of the last decade. A boom was born.

In 2000, unconventional natural gas, much of it freed from shale deposits by hydraulic fracturing,

[accounted for](#) 1% of gas production in the United States. In 2010, the figure was 10%. By 2035, the US Energy Information Administration (EIA) [projects](#) that shale gas will account for just over one quarter of US gas production.

But extracting natural gas from shale deposits thousands of metres underground poses significant environmental risks. Up to 19 million litres of water are necessary to fracture each horizontal shale-gas well, [according](#) to the US Environmental Protection Agency (EPA). The fracturing fluid – the slurry – is commonly 99% water but, because so much liquid is used, the final 1% can contain as much as 57,000 litres of chemicals per well. After withdrawal, up to 85% of the slurry remains underground.

In January last year, the [Environmental Working Group](#) (EWG), a Washington, DC-based NGO, released a [report](#) stating that oil and gas companies were injecting petroleum distillates, including kerosene, mineral spirits and other petroleum products that often contain high levels of known human carcinogen benzene, into hydraulic-fracturing wells. While US Congress exempted most types of fracking from regulation under the [Safe Drinking Water Act](#) in 2005, fracking with diesel fuel still requires a permit. Companies using petroleum distillates in their fracking fluid appeared, EWG argued, to be working around this.

The report also cited research indicating that fracking – now used in 90% of US natural gas wells – had been linked to drinking-water contamination and property damage in Colorado, Ohio, Pennsylvania, Wyoming and other states.

Findings detailed in a US congressional probe released on January 31 this year corroborate EWG’s suspicion that oil and gas firms have injected diesel fuel into fracking wells without a permit. In a [letter](#) to EPA administrator Lisa Jackson, lawmakers wrote that “between 2005 and 2009, oil and gas service companies injected 32.2 million gallons [121.9 million litres] of diesel fuel or hydraulic-fracturing fluids containing diesel fuel in wells in 19 states.”

Increasing public focus on fracking was inevitable: after all, the Marcellus Shale looms beneath two of the most populous US states, Pennsylvania and New York. But it was the portrayal of fracking in [Gasland](#) and an [episode](#) of *CSI: Crime Scene Investigation*, America’s top-rated television drama, that forced the issue into the national conversation.

Nothing did more to stir public consciousness than footage, in *Gasland*, of a Colorado landowner setting tap water aflame in his kitchen. The oil and gas industry [responded fiercely](#) to the implication that fracking was responsible for contaminating the water. A statement from America’s Natural Gas Alliance said that the flaming tap water was caused by naturally occurring methane and criticised the film’s “egregious” and “misleading” claims. But, for many, that fireball remains a potent symbol of the drilling technique’s dangers.

Now, regulators too are taking notice. In December last year, New York State [issued a temporary fracking moratorium](#). The month before that, the city of Pittsburgh, Pennsylvania, [adopted](#) the nation’s first fracking ban. In September, [new rules took effect](#) in Wyoming, requiring that oil and gas companies disclose the chemicals used in their fracking fluid. Companies can petition for exemptions – the recipes of fracking fluids have long been considered trade secrets – but the Wyoming regulations are viewed as a potential national model. Indeed, the US Department of the Interior, manager of hundreds of millions of acres of federal land, is [developing rules](#) similar to the Wyoming regulations for wells on public land.

Calls for transparency are also coming from investors. In January, five investment groups [filed resolutions](#) with nine major oil and gas companies, including ExxonMobil and Chevron, urging them to disclose the risks of their fracking operations. “Investors are concerned that the industry is barreling ahead with large-scale fracking without concrete plans to manage the risks,” explained Andrew Logan, director of the oil and gas industry programme for [Ceres](#), a coalition of investor and environmental groups.

“Investors aren't seeking to end the process of fracking. Instead, they want companies to demonstrate that fracking can be done in a sustainable manner.”

Watching the fracking debate play out in the United States are countries believed to be sitting on shale-gas resources of their own. Near Blackpool, a city in the northern United Kingdom, Cuadrilla Resources says it has struck on what it calls the “[first true shale-gas find in Europe](#)”. And Shell, ExxonMobil, and ConocoPhillips are all [reportedly](#) involved in early gas-shale trials elsewhere in Europe.

However, the real event looks set to be in China. [According to](#) the EIA, the country's geology points to greater unconventional gas potential than Europe. By 2035, the EIA projects that this source will account for 56% of China's domestic production. Every bit of it will be needed. ExxonMobil [predicted](#) in January that demand for natural gas for power generation will jump six-fold in China by 2030. Under a [deal](#) struck during president Barack Obama's visit to China in 2009, the United States pledged to help China meet that demand by assisting efforts to assess and develop the country's shale-gas resources.

Back in Pennsylvania, Talisman Energy re-activated its fracking wells within a week of the blowout. The company said it had modified the design of a component that failed at the Ward Township well and will apply lessons learned at all of its drilling sites. But the incident re-affirms a grim reality: regulators are struggling to catch up with a booming industry.

The EPA seems to have received the message. In March 2010, it [initiated a study](#) to assess the potential risks to drinking water posed by fracking. Citing the still unquantified risk of ground and surface-water contamination, a [report](#) released in January by the United Kingdom's Tyndall Centre for Climate Change Research urges the British government to suspend shale-gas development until at least the end of 2012, when the EPA is expected to release its fracking review.

Much as financial regulators were caught out as capital poured into subprime mortgage derivatives, pushing global markets to the brink in 2008, environmental regulators in the United States have proved themselves unprepared for the repercussions of an unchecked fracking boom. Now we can only hope that they – and their counterparts in other nations with shale-gas resources – catch up quickly.

Justin Gerdes is a freelance journalist based in California.

No N.B. hydro-fracking moratorium: Northrup

CBC News
March 11, 2011

The New Brunswick government will not put a moratorium on shale gas development in the province, Natural Resources Minister Bruce Northrup said on Friday.

The Quebec government imposed a moratorium on the practice earlier this week after receiving a major report.

Northrup told CBC News in an interview on Friday that he is watching the developments in Quebec but he will not follow the same path.

"We are not putting a moratorium in place," Northrup said.

The natural resources minister said the shale gas exploration is still at the early stages in New Brunswick.

Shale gas development uses a controversial practice called hydro-fracking.

Northrup said a full shale gas operation would not be ready for three to four years. So the natural resources minister said the provincial government has time to make sure the proper process is in place.

"We have time to do it. We are taking this in a slow process. We are not doing it overnight," he said.

"We are going to do our homework and we are going to do this right."

There are calls from environmentalists in New Brunswick to halt shale gas development.

David Coon, the executive director of the Conservation Council of New Brunswick, said the New Brunswick government should follow Quebec's lead.

Hydro-fracking is a process where companies pump a mixture of water, sand and chemicals into the ground, creating cracks in shale rock formations. That allows companies to extract natural gas from areas that would otherwise go untapped.

Opinion: B.C. should follow Quebec's lead on fracking

By Karen Tam Wu,
Special to the Vancouver Sun
March 11, 2011

On Tuesday, Quebec banned hydraulic fracturing, a method used to extract unconventional gas that is also known as "fracking." British Columbia's new Premier-designate, Christy Clark, has extolled the virtues of natural gas as part of BC's clean energy future and wants to increase exports of oil and gas. Given the frightening experiences of Americans and Albertans who have first hand experience with fracking, British Columbia should seriously consider following Quebec's lead, rather than forging ahead full tilt with gas exploitation.

Residents in parts of the United States and Alberta, where fracking occurs on a commercial scale, have horrifying reports of the impacts to their fresh water sources: drinking water is trucked in by oil and gas companies, residents can light their tap water on fire, cattle and fish are killed when fracturing fluid is spilled into streams.

Now stories about the effects of hydraulic fracturing in our own back yard are being heard. Yesterday, residents in the northeastern corner of our province announced they are calling for an inquiry into the health risks of extracting natural gas after sand used in fracking was found to be the culprit in a leaky sour gas pipeline. The leak forced residents to evacuate the area.

In addition to the health impacts for those living close to gas developments, the impacts to our water supply should be of concern to all British Columbians. A McAllister poll conducted November last year found that 91% of British Columbian residents consider fresh water to be our most precious resource. Drinking water and protecting fish and wildlife – not bowing to industry demands - are top priority British Columbians. The public also feels that the current water regulations are not enough to protect these priorities.

Here is an opportunity for the Liberal government to address these concerns. The government is taking a leadership role in modernizing the Water Act, whereby groundwater will finally be regulated. At the same time, the government allows oil and gas companies a free-for-all on water resources in the northern corners of British Columbia. Last year, which was one of the hottest and driest summers on record, 5.6 million barrels of water had been pumped underground, 111 million pounds of sand, and fracking fluid of undisclosed constitution were injected underground to create what industry has lauded as the "world's largest frack" in Horn River Basin in the northeast. The water came from nearby Two Island Lake. In 2009, 86 billion litres of water were used by the oil and gas industry.

Yet another arm of the government, the Auditor General, released its findings on the sustainability of British Columbia's groundwater: there is a lack of information on groundwater to be able to inform sustainable management, and there is inadequate protection of groundwater to prevent depletion and contamination and ensure viability of ecosystems.

Even if the Auditor General's findings are heeded, and the Water Act is amended to include strict groundwater regulations, the fact still remains that we don't understand the full impacts of hydraulic fracturing.

Americans are starting to take action. The United States Environmental Protection Agency is researching whether fracking can impact drinking water resources. In August, the State of New York passed a ban on fracking until legislators can make an informed decision about the risks of this technique.

The British Columbia government needs to take a huge step back from an aggressive pursuit of unconventional gas to allow time to better understand the impacts. This would be a sign of leadership for a clean energy future.

Fresh water is our greatest resource. British Columbians need to ensure the northeast of our province does not become a forsaken wasteland of a "no holds barred" approach to oil and gas development. Places like the Sacred Headwaters of the Skeena, Nass, and Stikine Rivers cannot be threatened by Shell's proposal to develop coalbed methane. This is a place where wild salmon and communities thrive. Places like the Sacred Headwaters where water is essential for cultural and ecological wellbeing should be off limits.

A much needed pause, to create a precautionary, informed approach will go a long way to ensuring that only development that respects and protects our precious fresh water resources can go forward.

Karen Tam Wu is the Senior Conservation Campaigner at ForestEthics

Shale gas industry moved too fast: Bouchard

No real culture of drilling in Quebec; Province can now move in right direction with BAPE report, former premier says

Monique Beaudin
Montreal Gazette
March 15, 2011

MONTREAL - The oil and gas industry's early forays into developing a shale-gas industry could have been handled better, former Quebec premier Lucien Bouchard said on Monday.

There was no real culture or experience of oil or gas drilling in Quebec and it was a "shock" for Quebecers, said Bouchard, who is also the chairman of the board of directors of the Quebec Oil and Gas Association.

"There were some mishaps, we didn't have the expertise, it could have been done in a better way," said Bouchard, who held a news conference in Montreal to comment publicly for the first time on the shale-gas report done by the Bureau d'audiences publiques sur l'environnement.

"But we realize it, all of us, and I think what we're doing now, starting with the BAPE report and the government's response, leads us in the right direction.

Provincial Environment Minister Pierre Arcand announced March 8 that a special committee would do an in-depth study of shale gas, a process that could take more than two years to complete. That was the main recommendation of the BAPE report.

Bouchard said it took a lot of discussion over the past week, but the association's members all support the report, and will co-operate with that study.

The industry doesn't agree with everything in the report - such as whether Quebec could have collected more money by issuing drilling permits differently, he said.

Quebec also put a temporary halt to most hydraulic fracturing except for research purposes. Hydraulic fracturing injects large volumes of water, mixed with sand and chemicals, into wells at high pressure to break up the rock and let the gas seep out into the well. There have been 31 wells drilled in Quebec, and fracturing has been done at 18 of them.

The pause in shale-gas development will put an end to the "manichaeistic dynamic" in the debate around shale gas in Quebec, Bouchard said. Manichaeism is an ancient Persian religion based on the fight between good and evil.

"This will calm it down ... We are a civilized people, we can discuss and exchange ideas and thoughts," he said. "There is no way we can go through this shale-gas development if we don't do it in a civilized and open-minded manner."

The pause means a slowing of operations for oil and gas companies, Bouchard said.

"They are showing patience," he said. "They have come to the conclusion that they have to slow down, and that the rhythm they were expecting will not happen."

Jim Fraser of Calgarybased Talisman Energy Inc., a player in Quebec's shale-gas industry, said Quebec's decision to limit hydraulic fracturing could have an impact on his company's operations this year, but it's too soon to say what it would be.

Minister confirms ban on fracking in Quebec

Kevin Dougherty
Montreal Gazette
March 17, 2011

Nathalie Normandeau, Quebec's natural resources minister, announced Wednesday that the province would no longer authorize hydraulic fracturing operations in the province in the hunt for oil and gas.

Commonly called fracking, the operation involves the pumping of fluids under high pressure into the earth.

Normandeau said the ban will apply to fracking both for gas and oil, but that fracking can continue for scientific purposes.

A panel of independent experts, yet to be named by the government, will determine whether an individual fracking operation will add to scientific knowledge about the impact of the controversial technique used to extract natural gas from shale rock formations.

In announcing the ban, Normandeau noted that the BAPE, Quebec's Bureau d'audiences publiques sur l'environnement, said in its report recommending further study before shale-gas exploration goes ahead that there is a lack of knowledge.

When he presented the BAPE report and agreed to its recommendation for a strategic environmental evaluation, Environment Minister Pierre Arcand said fracking could continue at the 31 wells already drilled in Quebec.

Normandeau's announce-ment Wednesday was made for reasons of "coherence," he said.

The strategic environmental evaluation could take 18 to 30 months, Normandeau said.

Arcand said he hopes to name the panel of experts, proposed by the BAPE and composed of representations of municipalities, government, industry and people with scientific and environmental expertise, by June or July.

Normandeau said the ban, decided at a weekly meeting of the Quebec cabinet, comes into force immediately.

"Concretely that means that if there are fracturing activities in the petroleum domain, for example, the decision will be made by the panel of experts on the condition that the fracturing activities improve our knowledge," Normandeau told reporters.

Gas leaks at wells that have already been fracking in Quebec led Arcand in January to question if the industry were in control of the situation.

In the United States, where fracking to extract shale gas is more advanced, there have been reports of gas and toxic fracking liquid getting into the water supply, although industry spokesmen have denied there are problems.

Marc Durand, a retired geology professor, has noted that fracking only extracts 20 per cent of the gas, but it also shatters the rock, allowing the gas to circulate and creating the potential for future environmental problems.

And a six-month New York Times investigation found that water used in fracking can be contaminated with radiation.

Quebec plans price-sensitive shale gas royalties

Jeffrey Jones
Reuters
March 17, 2011

CALGARY, Alberta (Reuters) - Energy companies developing shale gas reserves in Quebec will pay up to 35 percent in royalties under a price-sensitive system to come into force once a current ban on drilling is lifted, the Canadian province said on Thursday.

The revised royalty rates, to vary based on well productivity and gas prices, will be similar to those in British Columbia, where some of North America's biggest shale gas deposits are being developed, Quebec Finance Minister Raymond Bachand said in his 2011-12 budget statement.

Quebec's shale gas resources are seen as bright prospects for the energy industry, although the government suspended exploration this month after a report said the province needed a complete environmental assessment.

"If the gas potential can be developed economically, and respectfully in regard to the environment and the public, Quebecers will benefit from their fair share of this resource," Bachand said.

Quebec joins other jurisdictions such as Pennsylvania, New York and Louisiana as relatively new exploration and development regions for unconventional gas.

Applications of technology such as horizontal drilling and multistage rock fracturing have allowed development of reserves that had been trapped in shale formations. Some governments have questioned the methods, fearing the environmental impact of chemicals pumped into wellbores.

In Quebec, companies currently pay 10 percent to 12.5 percent in royalties, although development of the resource in the mainly French-speaking province is in its early stages.

The government has earmarked C\$7 million (\$7.1 million) for its environmental assessments and will spend another C\$6 million over three years to step up inspection of shale gas facilities, the government said.

It will also pay municipalities C\$100,000 per well in production over 10 years, it said.

In other resource measures, Bachand said Quebec will renew its Silvicultural Investment Program for another year. That and new measures for forestry seedling production will total C\$45 million.

Royalty treatment for gas

Shale wells could generate \$440 million in annual royalties and tax revenue

LYNN MOORE
Montreal Gazette
March 18, 2011

Should shale gas production get the go-ahead in Quebec, there will be a new royalty regime waiting for the controversial industry.

The rate, which will vary with the market price for natural gas and the output of each well, could reach 35 per cent, Finance Minister Raymond Bachand said Thursday.

Including corporate taxes, Quebec's share of revenue from shale gas production "could exceed 50 per cent," he said.

Gas wells could easily generate more than \$440 million in annual royalties and tax revenue for Quebec 15 years after production begins, according to government forecasts.

But before the industry moves from exploration to production, there will be a strategic environmental assessment, recommended recently by Quebec's environment review body, known as BAPE.

A budget of \$7 million has been allocated for that assessment and another \$6 million will be set aside to step up inspection of existing shale gas facilities and wells to ensure that gas companies protect the environment during the exploration stage.

"This development will be carried out correctly or not at all," said Bachand, echoing Premier Jean Charest.

"It is now reasonable to believe that Quebec's subsoil holds substantial shale gas potential," he said.

"If that is indeed the case, and only if the resource can be developed responsibly, all Quebecers must be able to benefit from it."

A legal framework that defines "fair compensations" for landowners will be established, the government said.

Municipalities will receive compensation of \$100,000 per producing well, to be paid over 10 years.

The new royalty rate will "compare favourably" with those in such jurisdictions as British Columbia, Bachand said.

Parti Québécois finance critic Nicolas Marceau described the revised royalty regime as a "virtual project for sometime later," that will let millions in revenue from exploration "go up in smoke for several years."

Under the current regime, companies producing natural gas pay a royalty at a fixed rate of 10 or 12.5 per cent.

There are also exploration and operating licenses to which costs are attached.

The new regime provides for progressive royalty rates, calculated for individual wells, that vary from five per cent to 35 per cent.

Costs related to exploration and operating licenses will be rolled into a new calculation of duties, the details of which are to be announced later.

Currently, shale gas activity in Quebec is essentially exploratory in nature, but Quebec expects that 250 wells could be drilled each year in Quebec if production is given the go-ahead. That scenario is based on industry information provided to the government.

According to that scenario, revenues from royalties, duties and corporate taxes collected by Quebec would reach \$254 million in six years with 780 wells in production.

By Year 15, about 3,030 wells would be in production in Quebec, according to the industry scenario. Those wells would produce 427 billion cubic feet of gas, generating almost \$193 million in royalties, \$187 million in duties and just over \$63 million in corporate income tax.

Municipalities will receive \$100,000 for each shale gas well on their territory, with highest annual payment of \$25,000 made the year the well goes into production.

Quebec has set aside \$2.5 million over three years to compensate municipalities.

Once the shale gas industry is up to speed in Quebec, the government will determine the means by which compensation to municipalities will be financed by the gas industry.

Quebec anticipates that the shale gas industry would generate \$1.5 billion in investments and support or create 11,000 jobs.