

Go on a saving spree.

## Dissecting fossil fuel parallels

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for the telegraph-journal

EDITOR'S NOTE: What is shale gas? What is fracking? The Telegraph-Journal wraps its week-long special series - 20 QUESTIONS: A shale gas primer - on the environmental issues that shale gas has raised in New Brunswick. Researched and written by veteran journalist Paul Gessell, this series is itself an exploration. By drilling down on people's concerns, we seek to separate the facts of shale gas from the fictions as objectively as possible - though controversy lurks in virtually every question. Today: Should we be looking at other sources of energy instead?

 ENLARGE PHOTO



AFP/Getty Images

A large excavator loads a truck with oil sands at the Suncor mine near the Fort McMurray, Alta. Energy companies were well aware of the oil sands long before they exploited them, waiting until it made financial sense to extract the oil.

### 19. WHAT ARE THE PARALLELS BETWEEN THE SHALE GAS AND OTHER UNCONVENTIONAL FOSSIL FUEL INDUSTRIES?

Consider Alberta's oil sands industry. The oil industry knew about the deposits long before they were exploited. And they weren't developed until well into the latter half of the 20th century because they were too expensive; the return on investment was not attractive. But, as the price of international oil shot up, so did interest in the oil sands because companies could finally make a profit on their ventures.

Now oil sands development is one of Canada's most important industries but also one of the most controversial because of perceived environmental threats. Critics call the oil produced from the sands "dirty oil."

The situation is similar with oil and gas in the high Arctic. Extracting oil and gas in the Far North is a very expensive proposition, not only because of the harsh climate but because of the long distance to markets and unique environmental issues. The Mackenzie Valley Pipeline to carry natural gas from the Beaufort Sea southward has been an on-again, off-again project for decades. Royal Dutch Shell PLC recently announced it is selling its Mackenzie Delta holdings, in part, because the massive amounts of shale gas developments in more southern populated areas are far more economical.

So, will the pipeline go ahead? Will shale gas development in several parts of North America make the Beaufort Sea gas uneconomical? The answers are being debated.

Extraction of fossil fuels, the mining of metals and many other natural resource industries exact environmental costs. Even prairie wheat fields were once expanses of natural grass, with unique ecosystems. Should those grasslands have been left in their natural state and not ploughed to produce food for human consumption? Likewise, should the shale gas industry be developed? Society must determine whether the environmental costs of the shale gas industry are too high or are tolerable for the energy, jobs and economic spinoffs provided.

### 20. SHOULDN'T WE BE CONCENTRATING ON FINDING RENEWABLE, RATHER THAN NON-RENEWABLE, SOURCES OF ENERGY?

The short answer to the question is "yes." But life is never that simple. The real answer to the question is far more complicated. Maybe the question itself is flawed.

Two Canadian environmental groups, the Pembina Institute and the David Suzuki Foundation, recently issued a report in which they warned against becoming too reliant on natural gas, which is normally considered a more environmentally friendly fossil fuel than oil or coal.

Natural gas should not be considered a "transition" fuel to a low-carbon energy future, said the report. In the short-term, using more natural gas instead of coal could help reduce Canada's greenhouse gas emissions. But, in the long-term, Canada will still be far from meeting its greenhouse gas reductions by 2050.

Generally, the solution to a cleaner environment is a reduction in the use of fossil fuels and the simultaneous development of energy sources such as hydro, wind power, solar power, tidal power and biofuels. But we have not yet developed these alternate energy forms to the extent they will heat all our homes, fuel all our cars and run all our factories at a cost we are willing to pay. So, what's to be done?

Perhaps, in the search for answers, we have been asking the wrong questions. So argues Mark Jaccard, professor of resource and environmental management at Simon Fraser University in Vancouver and author of the controversial book *Sustainable Fossil Fuels: The Unusual Suspect in the Quest for Clean and Enduring Energy*. (The book won the 2005 Donner Prize for being the best public

policy book of the year in Canada.) Jaccard argued that the technical know-how already exists for fossil fuels, even the supposedly very dirty coal, to be turned into far more environmentally friendly sources of energy.

"Today, we burn coal," Jaccard wrote. "But we could gasify it instead." He argues that zero-emission conversion of coal into clean-burning electricity and hydrogen would only increase the amount of the family budget spent on energy by a few percentage points in the next 50 years. And he also argues that we are not about to run out of fossil fuels - either in Canada or globally.

Will shale gas be part of the answer to the world's energy needs? One of Canada's leading authorities on the fossil fuel industry thinks so - and advises people in his home province of New Brunswick not to anticipate environmental catastrophes from hydraulic fracturing.

"Fracking is not something new," says Andre Plourde, an economist originally from Edmundston who specializes in energy issues and was recently appointed dean of the public affairs faculty at Ottawa's Carleton University. "As a technology, it's been used in the industry for quite a long time and been used quite successfully without serious environmental damage."

Plourde has had vast experience in the energy sector, as a senior federal public servant and as an academic at the University of Alberta. He has been closely following the shale gas industry, which began booming in the United States in 2001 and is becoming increasingly important in Canada, including New Brunswick.

Based on his studies and experience, Plourde has little time for the various scare stories endlessly repeated about the shale gas industry, stories that fracking causes earthquakes or pollutes drinking water sources with so much methane that homeowners can strike a match and set their tap water aflame.

People should not fear the horizontal drilling and fracking techniques used to access shale gas will contaminate water supplies, Plourde says.

"In most cases, shale deposits tend to be a lot deeper than the water table and so essentially then you've got impermeable rock, typically, between structures, so it's very hard to think there's going to be some kind of contamination of the water table as a result of a fracking exercise."

And, as far as burning tap water goes, as depicted in the controversial American documentary film *Gasland*, such a phenomenon can occur in areas sitting above underground methane gas, whether or not drilling has ever been done in the vicinity.

Most horror stories embedded in the anti-shale-gas movement tend to originate from areas of the United States where regulations historically have been more relaxed than in other parts of North America, he says. This lack of regulation in places such as Wyoming, for example, meant salty, brackish water brought to the surface in a well, before fracking even occurred, was not properly disposed of but allowed to contaminate surface water and drinking water sources.

"So, the issue is - don't let people do this. That's a regulatory issue. That's not an inherent danger of the technology."

Rules in Canada tend to be stricter than in the U.S. In the West, the region of Canada where Plourde has the most familiarity with the energy industry, shale gas companies are forced to store this brackish waste water in deep, underground reservoirs that will not contaminate surface water.

"I'm not trying to tell you there's no possibility ever that something won't go wrong with the fracking. Of course, things can go wrong. But, by now, the technology is well-developed and, under the right regulatory environment, people will have incentives to be careful as to how you do things."

Some American scientists have claimed the shale gas industry produces far more greenhouse gases than even coal, which is often considered to be the dirtiest fossil fuel of all. Plourde does not buy that argument. "Coal and natural gas are a long way from one another in terms of greenhouse gas emissions."

He also does not buy the argument, advanced this spring in a series of articles in *The New York Times*, that the shale gas industry is really a "Ponzi scheme" in which drilling operations end up costing more than the profits from the shale gas produced.

"We're not hearing about shale gas operations losing their shirts or going out of business at any greater rate than any other oil or gas sector."

Plourde expects New Brunswick can develop a viable shale gas industry. But people should not expect to generate enough riches to transform the status of the province from a "have-not" to a "have," as Newfoundland and Labrador did with the exploitation of its offshore oil.

"The kind of deposits in New Brunswick are not anything near in relative size to what the oil industry has meant for Newfoundland."

Environmentalists frequently make the case that we, as a society, should be focussing less on the exploitation of finite fossil fuels and more on developing renewable sources of energy, such as hydro or wind, solar and tidal power.

Plourde partially buys into that argument. His condition is that fossil fuels must be made so expensive, through carbon taxes or some equivalent vehicle, that energy from more traditionally expensive alternate sources becomes more attractive.

A carbon tax would penalize fossil fuel consumers, such as automobile drivers, rather than all taxpayers. Under the current system, governments tend to use tax dollars to pay for research on alternate fuels, ultimately forcing everyone, even those who do not use fossil fuels, to pay for that research.

Another approach in which Plourde also finds some merit is seeking ways of making both conventional and non-conventional fossil fuels more environmentally friendly.

But these kinds of radical changes will not happen tomorrow. In the meantime, Plourde is quite content to give his blessing to the extraction of shale gas in New Brunswick and elsewhere.

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Do you have a question about shale gas? Send it to [newsroom@telegraphjournal.com](mailto:newsroom@telegraphjournal.com). We'll answer a selection in future editions of the paper.

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These columns give the illusion of objectivity, yet as in this column, it's only an illusion. Three quarters of this discussion is given to an economist from business friendly Simon Fraser University. Rather than talk to an economist about science, how about hearing from renowned Canadian geoscientist David Hughes? Or if you want an economist, then how about including former Chief Economist and Managing Director of CIBC World Market, Jeff Rubin, who is famous for his accuracy in predicting oil trends. They both have quite different opinions than Mr. Plourde and have far more experience and credibility. I appreciate the attempt of the Journal to do an overview of this subject and there has been the occasional good point, but the research has been superficial at best, often misleading and at times, simply factually wrong. Try again and take the time to really learn the subject.

3 THUMBS UP 1 THUMBS DOWN

FLAG AS INAPPROPRIATE

**Jim Emberger, Taymouth** on 09/09/11 06:28:49 AM ADT

My apologies. The economist was not from Simon Fraser - it was the resource manager. The rest of my comment is unchanged.

0 THUMBS UP 1 THUMBS DOWN

FLAG AS INAPPROPRIATE

**Jim Emberger, Taymouth** on 09/09/11 06:49:20 AM ADT

Ok now story time is over for the week and the capitalist have had a weeks worth of free air time, let's answer the hard question. Why do we not return the stolen ownership of the resources under the surface to the individual who owns the land? Let's make greed and capitalism playable by everyone!! I think this would be much more palatable for the land owner if the individual being jeopardized for the good of the whole population and economy was compensated for the intrusion on his/her property and the long term potential damages to his/her life style. If this is a democratic-capitalistic system why does our government create laws which steal ownership from citizens as you would see in a third world regime? The government of the day would still get their share since the profit made by the landowner is taxable. Create an association of owners of resources, so owners can capitalize as a group on what they own, that was easy!!!

39 THUMBS UP 19 THUMBS DOWN

FLAG AS INAPPROPRIATE

**Robert Robichaud, saint john** on 09/09/11 07:54:35 AM ADT

Good idea Robert Robichaud. Seems fair to me. Don't think it's going to happen though. Too many powerful pigs at the trough.

28 THUMBS UP 12 THUMBS DOWN

FLAG AS INAPPROPRIATE

**john white, quispamsis** on 09/09/11 10:53:54 AM ADT

A fair attempt at being objective. However, there is a huge, unseen force lobbying for the petroleum industry and, in plain sight, the advantageous subsidies it receives from every level of government. If alternate energy research and projects received the same love, perhaps the transition could be much sooner.

10 THUMBS UP 3 THUMBS DOWN

 FLAG AS INAPPROPRIATE



**RJ LeBlanc, Moncton** on 09/09/11 06:04:16 PM ADT

Read the article again carefully and note:

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5  THUMBS UP 6  THUMBS DOWN

 FLAG AS INAPPROPRIATE

**opinion guy, Moncton, NB** on 09/09/11 10:53:43 PM ADT

As more and more evidence comes out, it shows the information used by the opponents are not accurate. It certainly seems it can be done safely if we have the proper regulations and safeguards.

6  THUMBS UP 5  THUMBS DOWN



 FLAG AS INAPPROPRIATE

**opinion guy, Moncton, NB** on 09/09/11 10:55:20 PM ADT

Of course we could ban all fossil fuels. But then our standard of living would drop considerably. Try to imagine no cars. Try to imagine much higher prices for electricity and so many other products that are transported by truck using gas.

Do we really want to go back to horse and buggies?

Let's get real here. Not one single protester would want that. Maybe they don't realize it but what they are really protesting is our cushy way of life.

5  THUMBS UP 6  THUMBS DOWN

 FLAG AS INAPPROPRIATE

**opinion guy, Moncton, NB** on 09/09/11 11:23:52 PM ADT

"Do we really want to go back to horse and buggies?"

Fair points you make. No doubt, transition to acceptable green energy may take decades. Or not -- market forces are a powerful motivator. However, by chasing this expensive shale gas now, we are delaying the R&D, development and execution, and economics of scale necessary to make green energy affordable. Not only that, we further damage the environment because NG is not carbon neutral. For some pocket change today, we delay technologies that are needed so our children will have an equally prosperous future when there is NO fossil fuel left. Pay now, or pay later. Which would be more costly?



10  THUMBS UP 1  THUMBS DOWN

 FLAG AS INAPPROPRIATE

**RJ LeBlanc, Moncton** on 10/09/11 02:00:21 PM ADT

R.J. Leblanc

We are not talking pocket change. Alternative is much more expensive at this time. At the present, the idea that we could dispense with hydrocarbon and replace it with alternative energy is just a dream. It might happen in the future but we are not sure of even that.

1  THUMBS UP 0  THUMBS DOWN

 FLAG AS INAPPROPRIATE

**opinion guy, Moncton, NB** on 12/09/11 02:13:22 PM ADT

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