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## F&D Cost For Western Canada Gas Tripled Since 2000

By **Pat Roche**

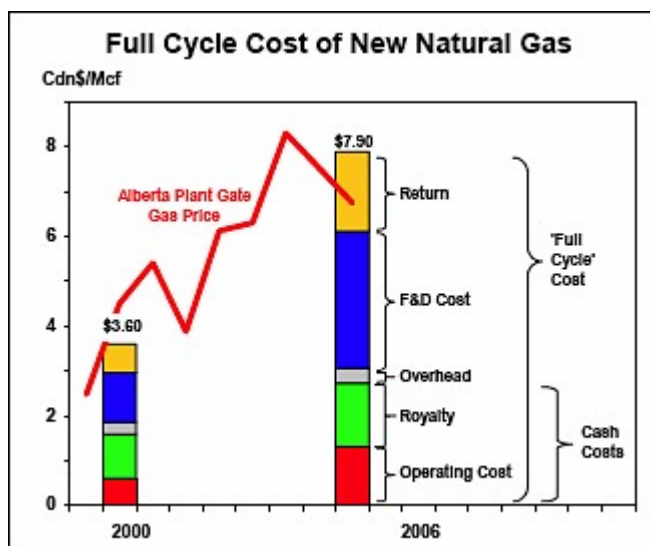
The average full-cycle cost of new natural gas supply in Western Canada -- including a return on producers' investment -- has more than doubled since 2000 to \$7.90 an mcf, a study has found.

That cost is \$1.65 an mcf more than the \$6.25 an mcf producers received at the Alberta gas plant gate in the first nine months of this year, **Ziff Energy Group** reported in its 21<sup>st</sup> annual finding and development (F&D) cost study for Western Canada.

Ziff found the cost of finding and developing new gas reserves has tripled since 2000 due to smaller reserve targets and the sharply increased cost of land, drilling and development.

The widening gap between what gas producers get paid and the F&D cost of new gas reserves underscores the average producer's inability to pay higher royalties -- bolstering the industry's argument in the current political debate over fiscal regimes -- but Ziff Energy has been documenting Western Canada's high costs for years.

Even without the recent cost inflation due to the billions of dollars pouring into oilsands construction, industry costs in Western Canada were significantly higher than in the United States.



Seasonality is a big factor in Western Canada, **Paul Ziff**, chief executive of Ziff Energy, said in an interview.

Canada's drilling rig fleet typically works at full capacity only in the winter, and most of the rigs are idled in the spring due to wet ground. So the Canadian industry has to pay for equipment not used year round.

Western Canada's seasonality also means new gas supplies can't be connected as quickly as in the U.S., Ziff said.

Most U.S. areas don't have a spring break-up, or as many areas that can be accessed only in winter. He said the fact that Canada's drilling fleet can only work at full capacity for three months of the year also puts Western Canada at a disadvantage over the U.S. in maintaining a skilled drilling workforce.

Ziff said another reason costs are higher in Western Canada than in the U.S. is the difference in geographic distribution of the producing basins.

U.S. basins are spread out over more than 20 states -- from Appalachia in the northeast to California in the west, and the Williston basin in North Dakota to South Texas.

In Canada, about 80% of activity is concentrated in Alberta. "In the U.S., there tends to be more localized service providers in some of the basins, as opposed to mega companies," Ziff said.

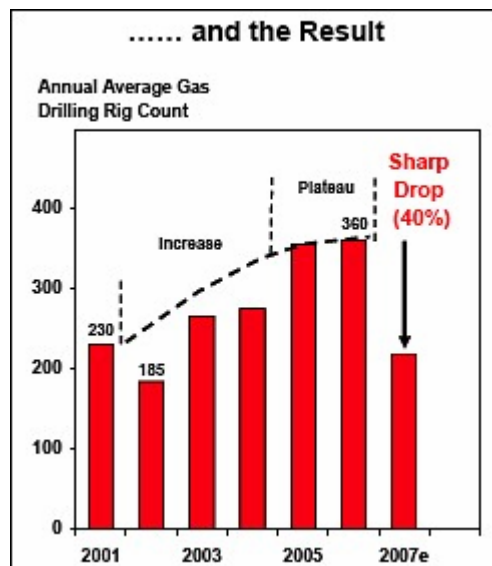
He said broad geographic distribution also means all U.S. basins don't heat up simultaneously.

While Western Canada's drilling costs (mainly for shallow wells) and fracture stimulation costs have fallen in the past year, labour costs are unlikely to fall because of fierce competition from the oilsands sector, Ziff said.

"I've not seen any study of ... the impact of the oilsands on labour in Alberta," he said. "I'm sure it's huge."

If a rig worker in the Edmonton area is laid off because of a slump in gas drilling, he can find work in the oilsands without travelling far from home. "The distances aren't that large as compared to if it were in the States, people aren't going to move from Louisiana to Wyoming because it gets slow one month," Ziff said.

The overheating of the local economy isn't surprising considering the billions of dollars being poured into a relatively small geographic area of northeastern Alberta, he said.



"Some of this could have been accommodated by better infrastructure and also by expansion of related training," he said.

"It's no secret where the oilsands are. And it's no secret the industry is trying to spend \$5 or \$6 billion a year every year, and more if they could," Ziff said. "So what are we doing to help this happen in an efficient manner? The answer is: 'not enough.'"

Looming shortages are being driven by the shrinking supply of skilled labour as well as growing demand. Alberta's post-secondary educational institutions should have been expanding when they were in fact turning students away, Ziff said. "We're actually seeding future problems."

More should have been done to address the lack of infrastructure in Fort McMurray, he added. "A house there costs more than in Calgary. Does that make a lot of sense (in) a community of 70,000?" He argued that if China can build entire new cities in a year, expanding Fort McMurray shouldn't be impossible.

"If the cost of housing is lower, then the cost of people is going to be lower, and then we have less inflation," the economist added. "So investing in what's needed could actually allow projects to pay out faster. Instead, there seems to have been a focus on cutting everything back."

Ziff Energy expressed concern about a future labour shortage in a study it did for the petroleum council (also known as the **Petroleum Human Resources Council of Canada**) 15 years ago, and again about a decade later.

In a press release on its 2007 study on F&D costs, the Calgary-based consultancy said tight gas and coalbed methane are the industry's main growth engine, providing the highest production growth, and reserve replacement at moderate cost.

The Deep Basin had the smallest increase in F&D costs, reflecting the focus on tight gas, while central Alberta, with its Horseshoe Canyon CBM, helps maintain gas production and a low F&D cost, the study found.

Tight gas and Horseshoe Canyon CBM have low F&D costs because they are predictable, Ziff said. "So the exploration risk is low. It's more engineering risk," he said. "That's what the resource play implies (but) it's expensive until you master it."

Once an operator -- largely through trial and error -- figures out the optimal solution to a resource play, a manufacturing approach can be adopted, reducing costs significantly.

But in new areas -- such as **EnCana Corporation's** Greater Sierra tight gas play in British Columbia and **Southwestern Energy Company's** Fayetteville shale play in the U.S. -- the initial costs are extremely high due to lack of infrastructure, Ziff said.

The 2007 study found gas costs varied by more than \$5 an mcf from the lowest-cost area -- central Alberta -- to the highest cost area -- conventional gas in the B.C. Plains.

Horseshoe Canyon CBM is also cheap because is shallow, mostly water free and close to infrastructure.

The U.S. has about three times as much unconventional gas as Canada, which contributes to the lower costs south of the border, Ziff said.

In contrast, the Foothills was one of the highest-cost areas in this year's study, said Ziff, who was astounded recently to learn that another study -- apparently used by Alberta's royalty review panel -- concluded Alberta Foothills gas play has the lowest costs in Canada ([DOB, Sept. 17, 2007](#)).

"I went back to the mid-nineties when we were first able to start doing regional analysis. The Foothills has never been the lowest," Ziff said Wednesday. "It's always been somewhere between the middle and the high."

Foothills discoveries are typically far from infrastructure, the wells are deep, the geology is complex and the seismic is hard to interpret. Wells cost millions of dollars to drill, which implies costly dry hopes.

Ziff Energy's annual cost study found oil profitability varies dramatically with crude oil quality. Heavy oil has the lowest returns, despite having the lowest F&D cost.

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