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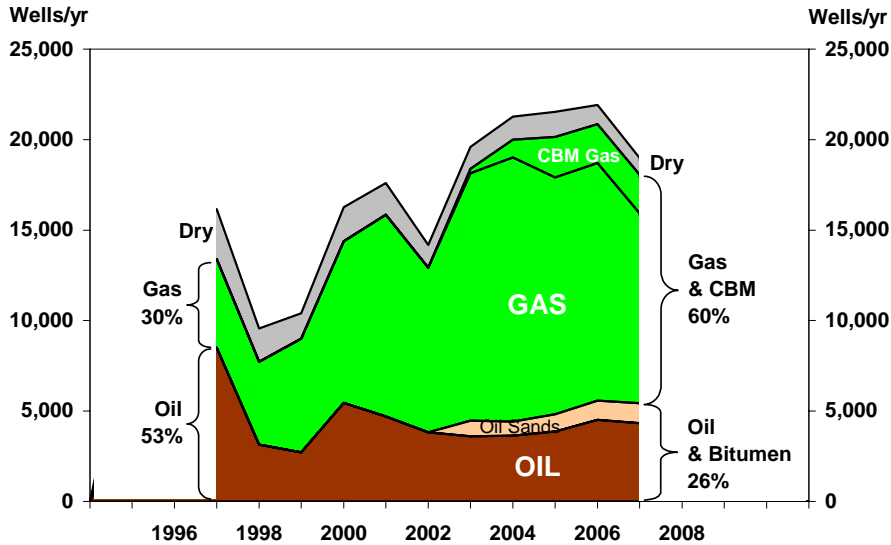
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Understanding Energy In Alberta: Why We Have a Conventional Oil & Gas Recession in 2008, and Why It May Get Worse!

Paul Ziff, CEO, Ziff Energy Group

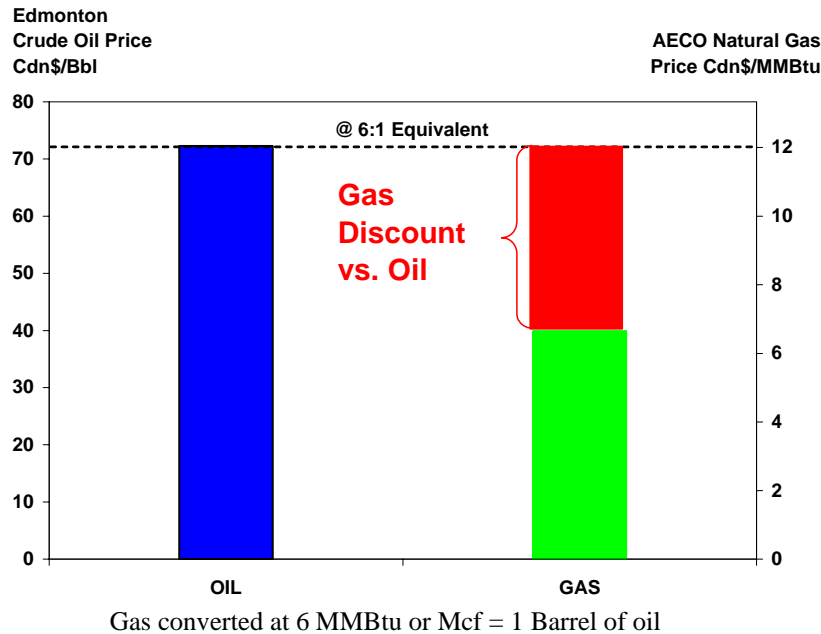
Many people talk about an ‘Oil & Gas’ industry in Canada – the truth is that the conventional industry is mainly gas now --- the main oil is Oil Sands! Since 1998 gas drilling has surpassed oil drilling activity, with more than 2 gas wells for each oil well in 2007. *Drilling for natural gas, not oil, drives Alberta’s massive service industry*, which stretches all across Alberta, especially rural towns. Figure 1 shows the dominance of gas drilling over the past decade.

**Figure 1
 Natural Gas Drilling Dominates in Alberta**



Any motorist is aware that oil prices have ‘gone through the roof’. Oil prices are set in the world market, and reflect international politics. By contrast, the price of natural gas is largely set in North America --- most people do not recognize that *natural gas is selling for only half of price of oil* (based on their respective energy content), as Figure 2 shows.

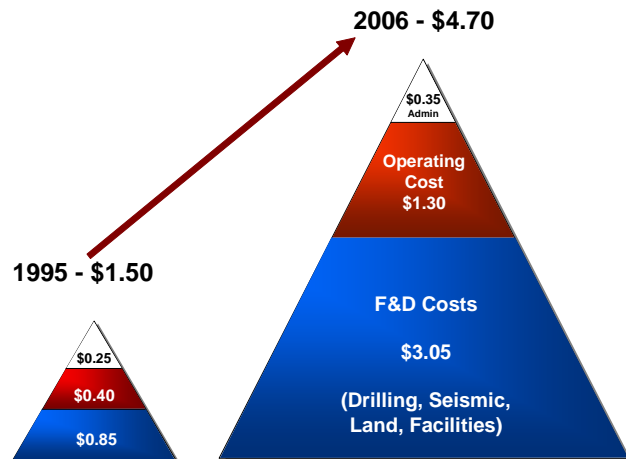
Figure 2
Alberta Natural Gas Price *Discount* vs. Oil Price (2007)



The biggest energy producers are reporting billions of profits; however, most of that profit is made from oil production, largely from older oil reserves. Based on the much lower price for natural gas than oil, and today’s higher drilling and operating costs, the *new royalties on natural gas production* are coming at a lousy time --- and *are contributing to a sharp drop in current and future gas drilling activity*, and a drop in employment for the related services sector which is spread all across Alberta. The Petroleum Services Association of Canada (PSAC), the umbrella association for several hundred service companies (mainly Albertan), estimates that each drilling rig creates 135 jobs. In addition, as the rig and each employee spend money locally, there is a ‘ripple effect’ of spending in the local economy, which is called the ‘multiplier’ effect.

One new development is the dramatic escalation in the cost to find new gas reserves. Figure 3 illustrates the dramatic increase in the ‘full cycle’ gas cost in the last decade. Adding the Producer’s ‘Return’ or profit, Royalties, and Taxes, since 2006 the price of natural gas is **not** high enough to justify average new gas exploration.

Figure 3
Increases in the ‘Full Cycle’ Cost for New Gas Supplies (Cdn\$/Mcf)



Source: Ziff Energy Group

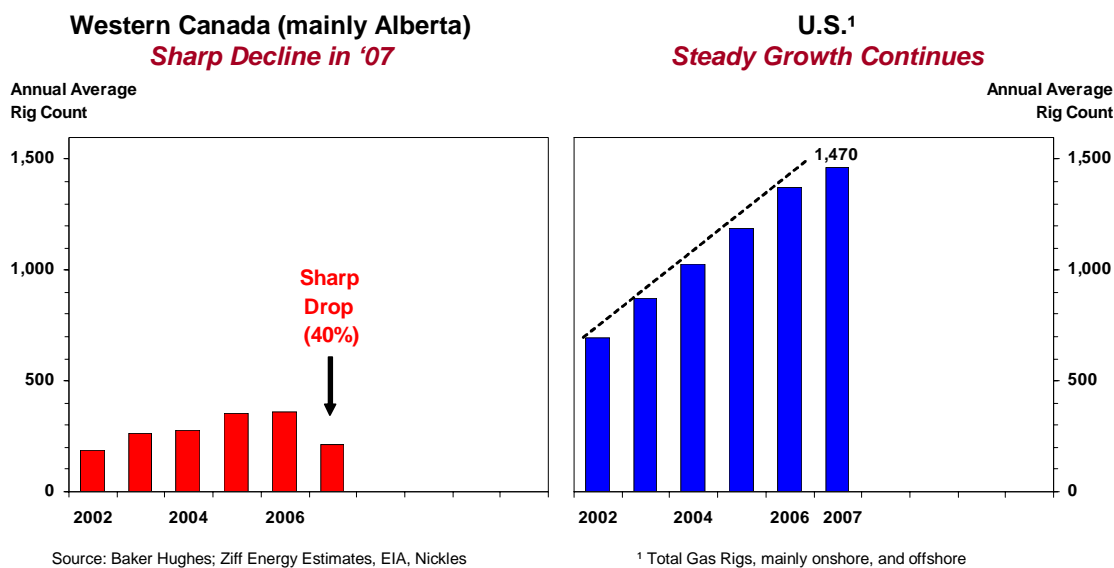
* Facilities, Land, Seismic



In the Royalty Review last year, the Alberta Government and the Royalty Review Panel relied on dated and erroneous information (provided by an American consulting firm), and incomplete cost models. ***Following announcement of the New Royalty plan in late October, conventional industry spending has dropped sharply.***

Is this trend true everywhere? No, industry spending in neighbouring provinces (Saskatchewan and BC) is booming! U.S. gas drilling continues to increase, as costs and royalties are lower, even though the price is similar. In early February 2008, World Oil magazine projected that gas wells drilled in Texas will rise to a decade high in 2008. The trend says a lot about gas economics. Why does Ziff Energy conclude that gas is challenged in Alberta? Due to sharply ***rising costs***, especially labor, influenced by the surging oil sands developments; and the ***strong Canadian dollar***, which has cut about \$3/Mcf from the Canadian gas price.

Figure 4
North American Onshore Gas Drilling Rig Trend
2001 - 2007



IMPACTS:

1. A number of oil and gas companies, mainly Canadian (giants EnCana, CNRL, & Talisman) have announced ***large 2008 spending cutbacks in Alberta***, and are shifting spending outside Alberta; many other companies are doing the same, but without announcements (especially if they are ‘foreign’) and don’t want to upset the ‘political apple cart’. Ziff Energy estimates at least 80% of companies active in Alberta have reduced their planned conventional spending since the new royalty announcement.
2. ***What gas activity is most impacted? Deep gas***, in Western and Northwestern Alberta, and ***shallow and Coalbed Methane*** in Central and Southeast Alberta.
3. ***Lay-offs*** - Industry leader CNRL made layoffs in December, and Apache has followed in February, across their organization. We believe more ‘Alberta’ layoffs are ‘in the wings’. The impact has been felt with large layoffs in the service industry across the Province of Alberta - it is likely to get much worse during the spring and summer of 2008, impacting rural Alberta, as well as major cities such as Calgary, Edmonton, Red Deer, Medicine Hat, and Grande Prairie.
4. ***Service Companies*** - The main impact of lower drilling activity is on the hundreds of Alberta companies that provide drillers with needed services, from steel, and mud, to clearing sites, to catering and lodging services. Many of these companies have already made some layoffs,



even during the normally busy winter drilling season --- it is expected many more layoffs will occur after spring break-up.

5. **Equipment** - Recently companies such as Calfrac, Halliburton, BJ Services, Savanna, and Schlumberger are moving some of their underutilized 'high quality' equipment south of Canada. Other operators such as Trican and Nabors are sending 'Alberta' equipment to Russia.
6. **Government Revenue: Now & Future** - A big impact is on Provincial revenues --- the bi-weekly sales of Crown land are the lowest in almost a decade, which cuts into the revenue the Alberta Government counts on. These developments will also reduce future natural gas production and government royalties --- exactly the opposite of what a new royalty program should do.

Montana and Colorado to the south, and B.C. and Saskatchewan are actively courting Alberta gas producers to shift their focus to these regions – and some are going! Once the producers, specialized service equipment, and the related jobs are gone, will they return in a hurry?

The target of the Royalty Review Panel was to increase royalties by \$1.8 billion per year. The Alberta Government's goal is to increase royalties by \$1.4 billion. However, the reductions in spending on Crown Land sales will likely erase any royalty gains. And the decreased activity now will reduce future gas production, on which provincial royalties are levied. The euphemism for this accelerated downturn is 'unintended consequences'. What this means is that the new proposed royalty policy for gas is intensifying the recession in the conventional energy industry. This "unintended consequence" was not predicted by the Alberta Government (or the Royalty Review Panel), although was forecast by the gas producers.

Unless the proposed royalty program is revised, conventional gas activity will decline sharply, creating a "*made in Alberta*" recession in 2008 (outside of the Oil Sands). The increase in provincial net revenues of \$1.4 billion in 2009 is a 'house of cards' ready to tumble.

Hopefully, later this year after the provincial election, Alberta's energy policy will improve as the government addresses "unintended consequences".

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Paul Ziff is CEO of Canada's largest energy consulting firm, Ziff Energy Group, celebrating its 25th anniversary of providing energy advisory services and is active today in 20 countries. His first energy job was with an agency of the Alberta Government, to which Ziff Energy Group was a consultant in years past.