



CANADIAN ASSOCIATION  
OF PETROLEUM PRODUCERS

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# **Balancing Natural Gas Supply and Demand**

**Comments to the  
US Department of Energy  
Office of Fossil Energy**

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**December 19, 2005**

## Canadian Natural Gas Outlook

The Canadian Association of Petroleum Producers Canada appreciates the opportunity to provide comments and the Canadian natural gas perspective and outlook as part of the US Department of Energy *Balancing Natural Gas Supply and Demand* process under the Energy Policy Act 2005. Energy markets in North America are integrated, the gas market being no exception, and this integration is a major component of the close international ties between Canada and the United States.

Canada continues to be the largest exporter of natural gas to the United States. Approximately 85% of U.S. natural gas imports come from Canada and these volumes in turn account for 16% of total gas consumption in the United States. The Canadian natural gas industry anticipates that it will maintain this significant role.

In the short term, the natural gas industry in Canada is running flat out in response to growing demand and we are now seeing small increases in production year over year (up approximately 300 million cubic feet per day in 2005). In the medium to long term, the industry is looking to develop large unconventional and frontier reserves and connect them to the market.

### Resource Base

Canada is endowed with an enormous resource base of natural gas. Estimates of the ultimate potential of conventional natural gas in the WCSB indicate that decades of production remain. To date, approximately half of the 290 trillion cubic feet (Tcf) estimated ultimate potential has been produced. (see Figure 1).

In addition to conventional natural gas, a large unconventional natural gas resource base also exists in Canada, particularly in the form of coal bed methane (CBM). Estimates of recoverable resources of CBM in western Canada range from 75 Tcf to 167 Tcf. This represents a resource comparable in size to the remaining conventional gas resources in the WCSB. Commercial production of this huge resource has only just begun.

In terms of frontier supplies, Northern Canada contains significant resources of conventional gas. Industry activity in the Mackenzie/Beaufort region has increased in recent years, as developments are underway to connect some 65 Tcf of gas reserves to the North American market. The Mackenzie Gas Project proponents have submitted to regulators an application for the development of the fields and pipeline facilities for the project.

Natural gas supplies are also located in the off shore of Eastern Canada. Natural gas production from offshore Nova Scotia has taken place since early 2000 when the Sable Island Offshore Energy Project went into commercial operation. Currently around 400 mmmcf of gas is produced from these fields, and most of this production finds its way to U.S. Northeastern markets.

## **Short-term Natural Gas Production and Exports**

The Canadian natural gas industry is operating at record levels in a response to growing North American gas demand. A powerful indicator of industry's intentions is the fact that current rig activity is almost 20% higher than at the same time last year (see Figure 2). Consequently, the number of gas wells drilled in 2005 in Western Canada is projected to be 16,500, almost 10 % greater last year's total of 15,126. (see Figure 3)

Increased drilling is having a positive impact on gas production. Gas production in September 2005 reached 16.7 billion cubic feet per day, some 300 million cubic feet per day higher than production for September 2004. (see Figure 5)

Coal bed methane development is now taking place at a rapid pace and gas production from this source is now expected to reach levels in the near term that were previously unanticipated. From just under 200 CBM wells in 2003, coalbed methane drilling has soared in 2005 with over three thousand wells being completed, and further growth is expected with over five thousand wells anticipated in 2007. Consequently coal bed methane production is expected to reach almost 1 billion cubic feet per day in 2007, accounting for approximately 5% of overall Canadian deliverability. (see Figure 4)

Along with higher production levels experienced to date in 2005, gas exports to the US have also increased year over year. Most recent data to the end of September 2005 shows Canada exported an additional 90 billion cubic feet of natural gas to the US compared to the same period in 2004. (see Figure 6). With today's strong price signal, industry is expected to maintain its high activity levels in an effort to keep pace with growing demand. Indeed, even higher levels of drilling are forecast for 2006 compared with 2005. (see Figure 3)

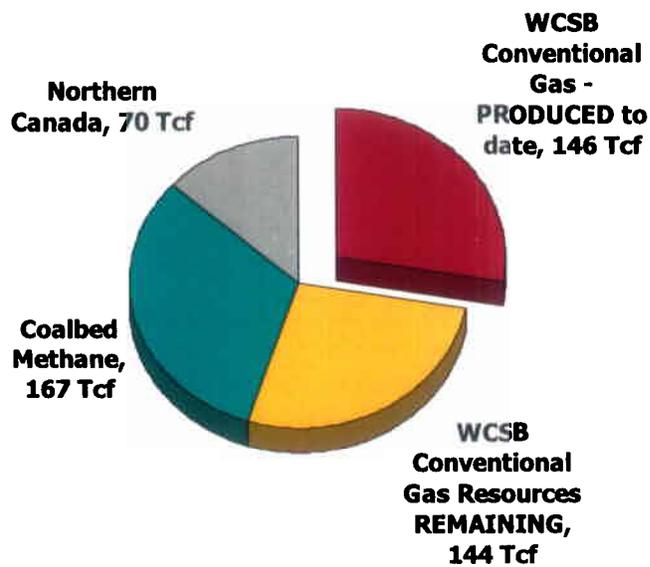
## **Oil Sands Production and Gas Demand**

There has been a lot of attention on the use of natural gas in Canada's oil sands. Over the next few years, production of crude oil from the oil sands plants located in Northern Alberta is expected to grow from approximately 1 million barrels per day currently to 2 million barrels per day by 2010 and to almost 3 million barrels per day by 2015. While the crude oil extraction process employed by the oil sands producers involves the use of natural gas, it should not be concluded that gas use by this industry will also double. The intensity of gas use in oil sands production has declined in recent years (see figure 7) and the current high level of natural gas prices are driving the development of new oil sands extraction and upgrading technologies which use much less, and in some cases no natural gas. The use of these kinds of technologies not only improves the economics of oil production but also frees up natural gas to be sold to other markets in North America.

### **Additional Recent Canadian Natural Gas Reports:**

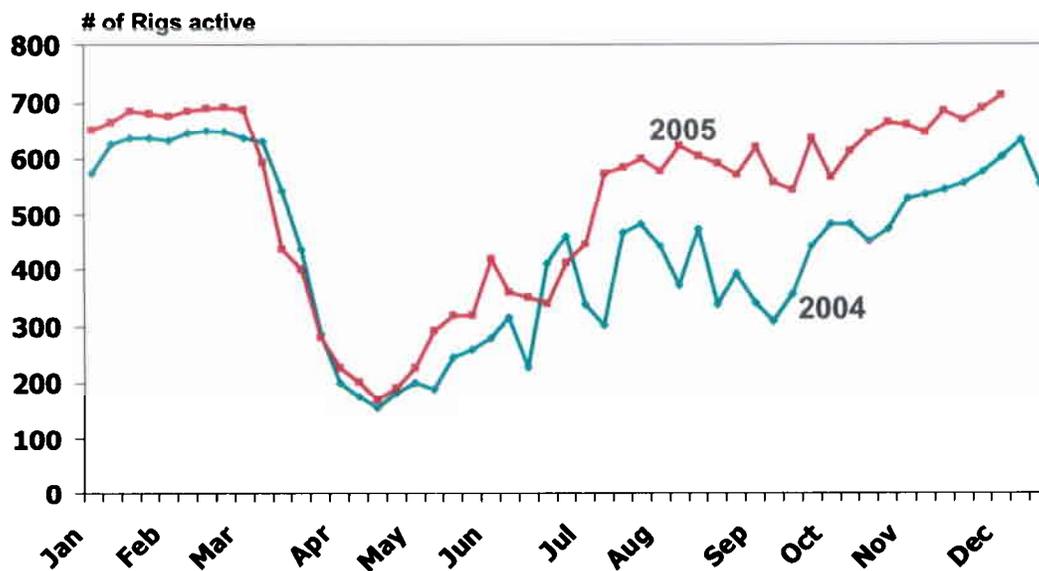
1. Short-term Canadian Natural Gas Deliverability 2005-2007, National Energy Board, October 2005
2. Alberta Reserves 2004 and Supply/Demand Outlook 2005-2014 (ST98-2005), Alberta Energy and Utilities Board, September 2005

Figure 1: Western Canadian Gas Resources, Conventional and New Sources

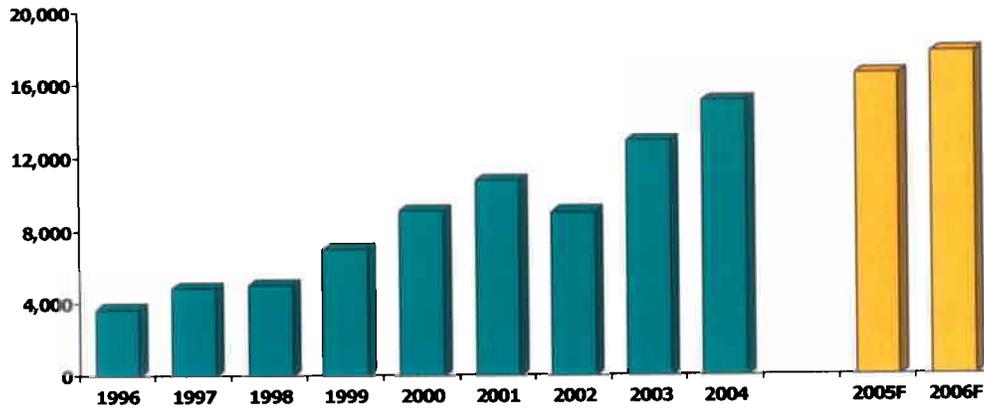


Source: Alberta Energy & Utilities Board/National Energy Board, CER1

Figure 2: Rig Activity in Western Canada for 2004 and 2005 To Date

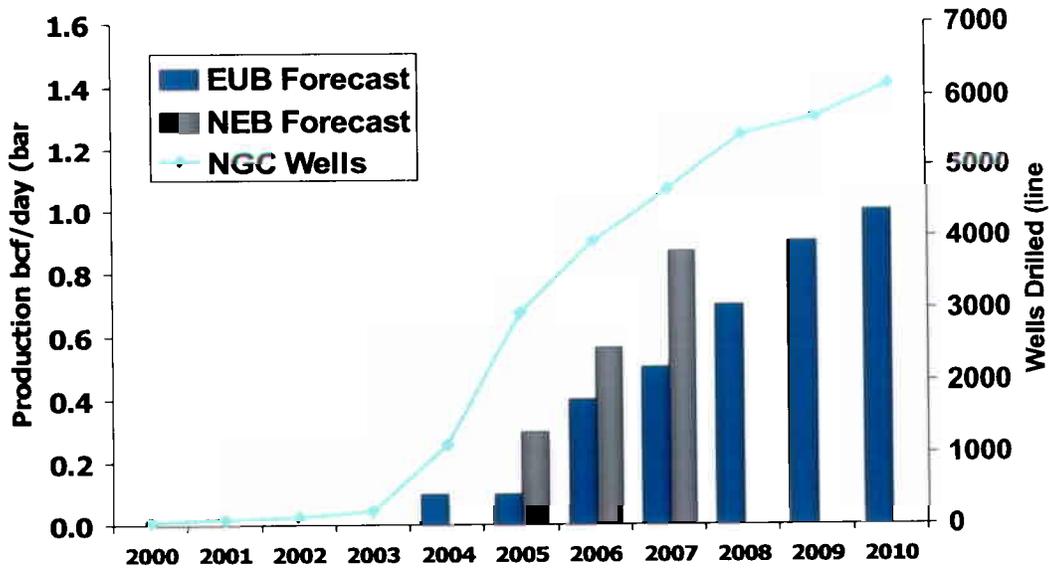


**Figure 3: Natural Gas Wells Drilled in Canada**



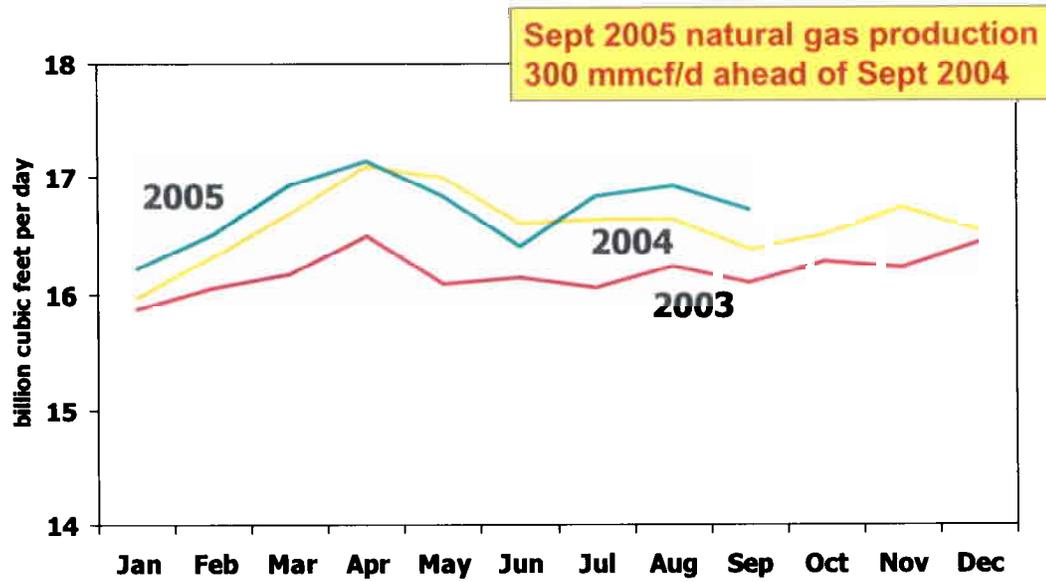
Source: CAPP Statistical Handbook

**Figure 4: Natural Gas from Coal Production in Alberta & NGC Wells Drilled in Western Canada**



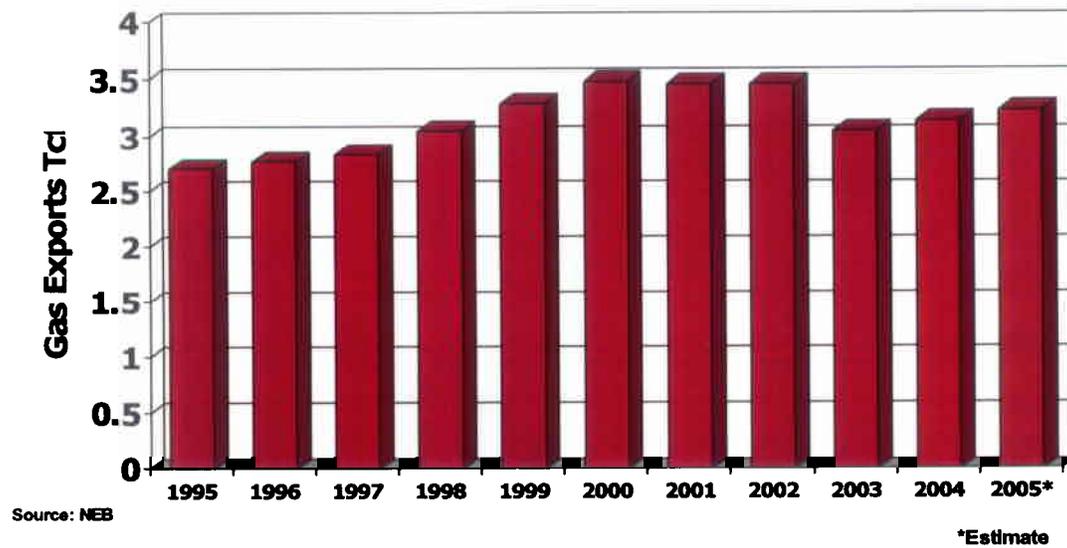
Source: Wells - CAPP (historical) & FirstEnergy (forecast)  
 Production - EUB & NEB

Figure 5: Natural Gas Production in Western Canada



Source: FirstEnergy Capital

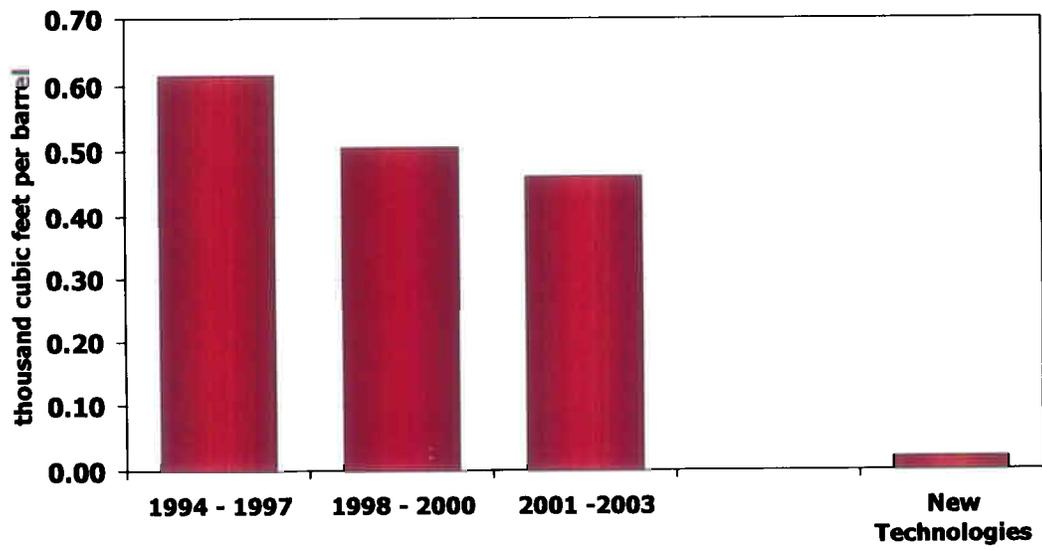
Figure 6: Net Gas Exports to the United States (Tcf)



Source: NEB

\*Estimate

**Figure 7: Natural Gas Consumed per Barrel of Oil Sands Production**



Source: Historical data from EUB

