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The New Face of Coal: CBM an Emerging Supply Trend

Phasis Consulting (Phasis) is pleased to announce the completion of its study titled: ***The New Face of Coal: CBM an Emerging Supply Trend*** prepared by Bettina Pierre-Gilles, chief economist of Phasis. The study provides readers with an economic assessment of the market, price, supply and demand as well as key statistics of CBM (coalbed methane) development in Canada, which while still in its infancy, is growing substantially.

The New Face of Coal: CBM an Emerging Supply Trend represents the latest, most comprehensive economic analysis available about CBM development in Canada. The study also assesses the socioeconomic benefits of developing this unconventional resource; and examines the issues that could potentially undermine continued development.

This study is a valuable starting point for companies looking to enter the Canadian CBM market and for investors looking at financing CBM projects in Canada.

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Industry Report



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June 2006

Bettina Pierre-Gilles

The New Face of Coal: CBM an Emerging Supply Trend

by Bettina Pierre-Gilles, Chief Economist / Principal, Phasis Consulting

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The New Face of Coal: CBM an Emerging Supply trend

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TABLE OF CONTENT

THE NEED FOR UNCONVENTIONAL RESOURCES IN CANADA	6
CONVENTIONAL PRODUCTION	6
SUPPLY & DEMAND	7
PRICING	9
UNCONVENTIONAL RESOURCES	10
COALBED METHANE (CBM)	12
NOVA SCOTIA	12
BRITISH COLUMBIA	12
ALBERTA	13
LICENSING	15
PRODUCTION	17
HORSESHOE CANYON	20
MANNVILLE	20
ARDLEY	21
FUTURE PRODUCTION	21
DRILLING AND COMPLETION TECHNOLOGIES	23
US CBM PRODUCTION	25
ECONOMICS OF CBM DEVELOPMENT IN CANADA	27
HORSESHOE CANYON	27

MANNVILLE	28
A MODEL OF CBM COMMERCIAL PRODUCTION	28
RESULTS OF FORECAST	29
SOCIOECONOMICS OF CBM DEVELOPMENT	
ISSUES AFFECTING CBM DEVELOPMENT	30
LAND	30
CONCLUSION	31

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THE NEED FOR UNCONVENTIONAL RESOURCES IN CANADA

CONVENTIONAL PRODUCTION Conventional natural gas production in Canada is declining; meanwhile demand is rising especially in the United States (U.S.), Canada's most important export market.

An estimated 501 trillion cubic feet (Tcf) of Canadian natural reserves lie in several areas: the Western Canada Sedimentary Basin (WCSB), the East Coast, the Gulf of St. Lawrence, the West Coast, and Ontario. The WCSB is the largest conventional natural gas producing basin in Canada, covering an area that includes Manitoba, Saskatchewan, Alberta and British Columbia.

According to a 2004 National Energy Board (NEB) study, 54.5% of Canada's potential conventional natural gas resources lie in the WCSB. Like most North American conventional producing basins, the WCSB is mature. Production comes from older pools, which are depleting more quickly than new ones are coming on stream. The basin's remaining undiscovered potentials lie in the deeper areas where there has been

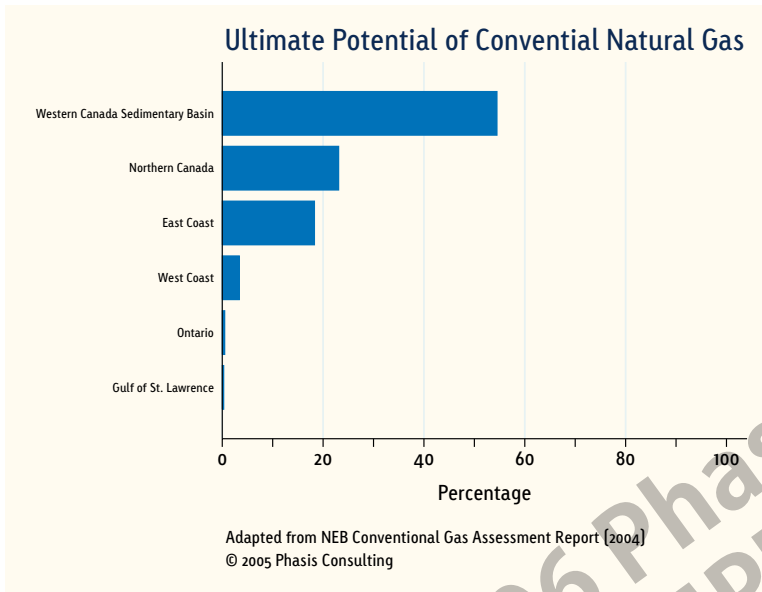


Figure 1
Ultimate potential of conventional natural gas in Canada.

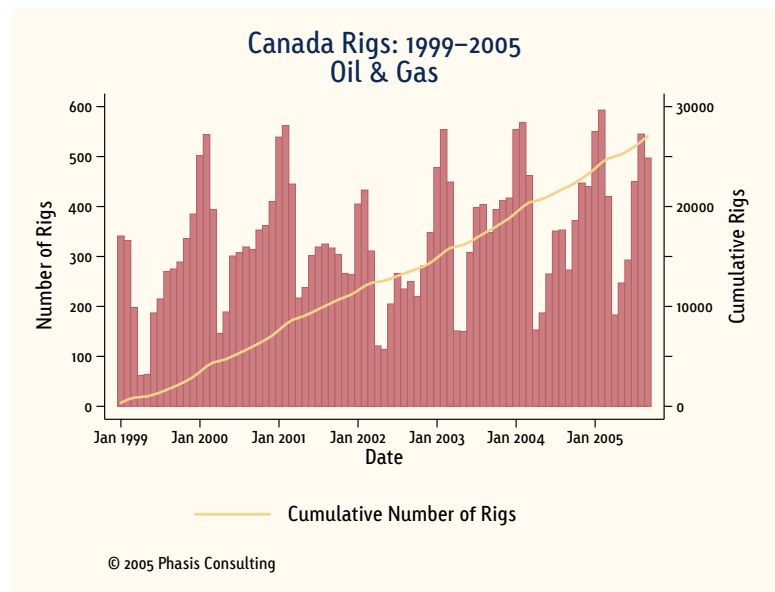


Figure 2
Oil and gas rig released in Canada.

limited drilling.

Even as the WCSB provides a critical supply of conventional natural gas to North America, production has steadily declined over the past decade, despite more aggressive drilling, exploration and improved technologies (Figures 2,3). This has created a growing gap between supply and demand by all consuming sectors.

Several pure exploration companies are leaving the maturing North America basins for new and potentially more prosperous basins internationally. However, Canada's conventional resources industry is still not feeling the impact: over 16,000 conventional natural gas wells were drilled in 2005. The Canadian Association of Petroleum Producers (CAPP) reported that at year-end 2004, Canada produced 17.0 billion cubic feet per day (Bcf/d) of natural gas.

SUPPLY & DEMAND

All sectors in Canada are experiencing increased demand for natural gas. In 2004, 7.3 Bcf/d of natural gas was consumed by residential, commercial, industrial, and electric power customers.

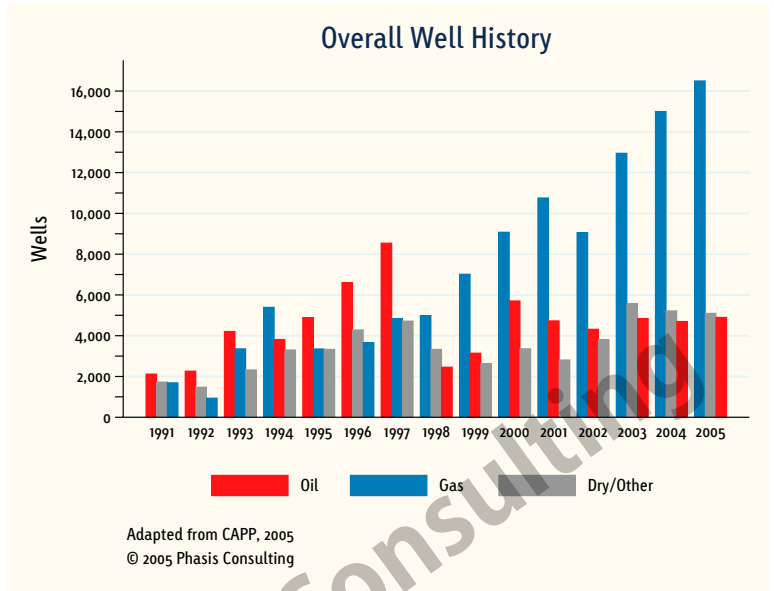


Figure 3
Over the past decade, the number of conventional gas wells drilled have been steadily increasing.

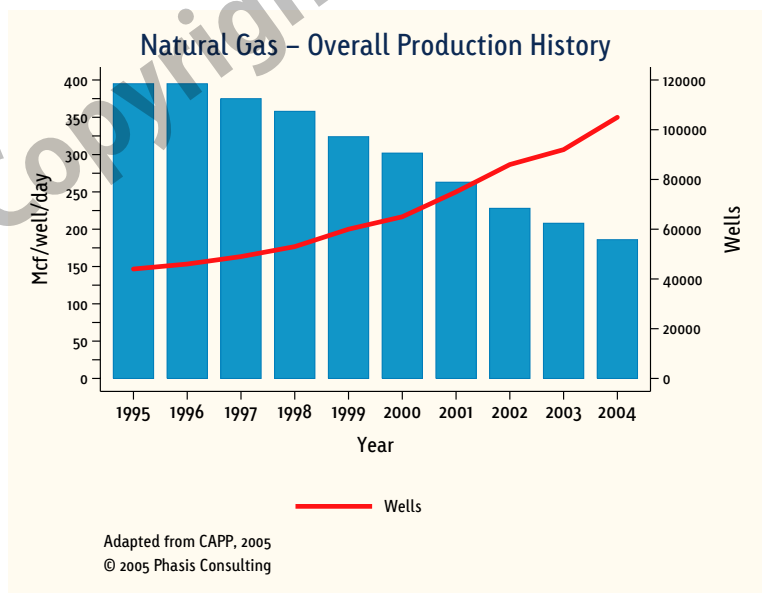
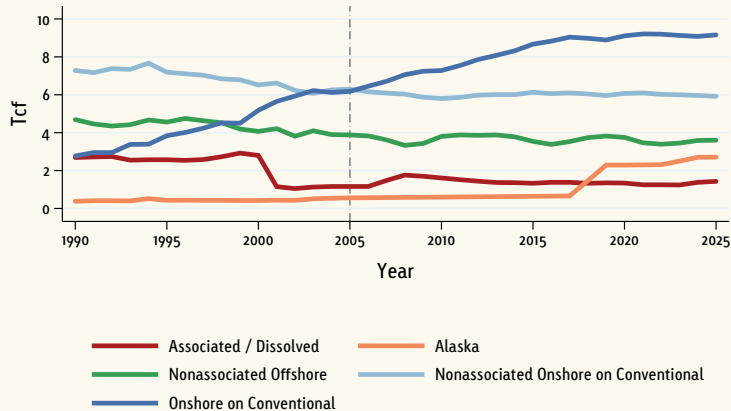


Figure 4
Conventional gas production in Canada.

US Dry Natural Gas Production 1990-2025



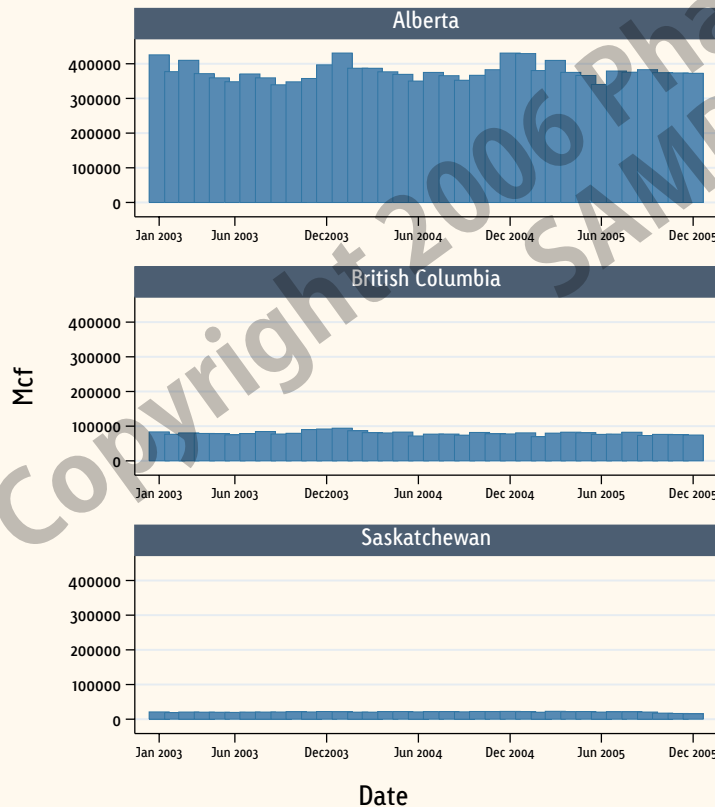
Adapted from: EIA's 2004 Annual Energy Outlook
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In the U.S., the Energy Information Administration (EIA) is forecasting an increase in energy demand. With approximately 51% of the Canadian natural gas produced going to the U.S, this growing energy demand will place a high burden on Canada's conventional gas supply.

Figure 5

The EIA forecasts US dry gas production to decrease 3.2% in 2005.

Gas Production by Province



Note: Production for the months of Oct-Dec 2005 has been estimated

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Figure 6

Most gas production in Canada comes from Alberta.

Supply (Tcf)	1999	2000	2001	2002	2003	2004	2005	2006E	2007E
Total Dry Gas Production	18.83	19.18	19.62	18.93	19.10	18.76	18.16	18.56	18.88
Net Imports	3.42	3.54	3.60	3.50	3.26	3.40	3.50	3.61	3.69
Supplemental Gaseous Fuels	0.08	0.09	0.09	0.07	0.07	0.06	0.07	0.07	0.07
Storage	0.21	0.80	-1.18	0.53	-0.19	-0.13	0.06	0.05	0.01
Balancing Item	-0.14	-0.16	0.12	-0.02	0.03	0.34	0.17	-0.33	-0.17
Total Primary Supply	22.41	23.45	22.24	23.01	22.28	22.43	21.95	21.95	22.47

Table 1
US Supply

Demand (Tcf)	1999	2000	2001	2002	2003	2004	2005	2006E	2007E
Residential	4.73	5.00	4.77	4.89	5.08	4.88	4.84	4.75	4.95
Commercial	3.04	3.18	3.02	3.14	3.18	3.14	3.05	3.04	3.13
Industrial	9.16	9.40	8.46	8.62	8.27	8.35	7.71	8.04	8.16
Transportation	0.66	0.66	0.64	0.68	0.61	0.59	0.58	0.62	0.65
Electric Power	4.82	5.21	5.34	5.67	5.14	5.46	5.76	5.51	5.58
Total Demand	22.41	23.45	22.24	23.01	22.28	22.43	21.95	21.95	22.47

Table 2
US Demand

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Growing energy supply and demand has caused North American natural gas prices to rise. At the same time crude oil prices, the main switching fuel from natural gas, are also high.

Weather conditions also affect gas supply and pricing. The devastating hurricanes that hit the Gulf of Mexico in 2005 shut down production in the area and upset the delicate North American supply balance. Storage, which also contributes to the movement of gas prices, was affected by the warmer than normal winter experienced in usually cold cities throughout Canada and the U.S.

Natural gas prices in North America are largely dictated by key pricing hubs in the following areas: in Canada, the intra-Alberta (AECO), and Dawn in Ontario; and in the U.S., the Henry Hub is the most important market. With gas prices for these markets at their historical high, the question begs: where will North Americans find new yet reliable gas to add to the already tight supply?

UNCONVENTIONAL RESOURCES As conventional natural gas supplies dwindle in Canada and the U.S., industry is looking for new sources of energy to boost current and future supply. One solution is exploring for unconventional gas, which includes: shale gas, tight gas, gas hydrates, and coalbed methane (CBM)¹.

Shale gas is natural gas produced from the fractures, pore spaces, and physical matrix of shales. In the U.S., where shale gas production is around 600 Bcf/y², and expected to increase at least 10% by 2025, this resource could provide a substantial boost to energy supply, especially with projects like the Barnett Shale in Texas. In Canada, where shale gas is still in the evaluation phase, it is believed that more than 80%³ of the potential of the resource will be found in the WCSB..

Tight gas is natural gas that is contained in low permeability formations. This gas from tight sands is generally located in the deeper portions of sedimentary basins, in rocks that are cemented, making it difficult to produce without using special technologies and production techniques. In the U.S., current tight gas production

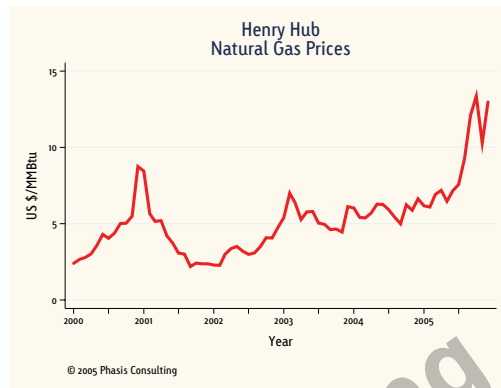


Figure 7
Henry Hub's (US) natural gas prices have risen substantially since 2002.

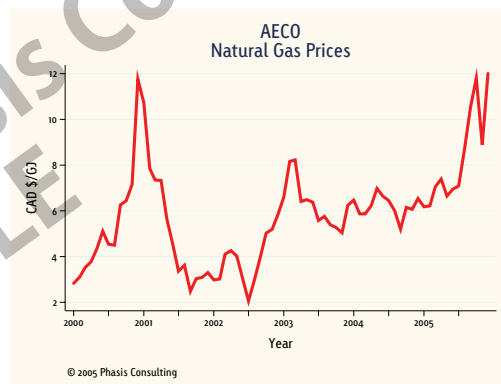


Figure 8
AECO's (Canada) natural gas prices have been in line with Henry Hub's due to both markets being integrated.

¹ In Canada, coalbed methane is referred to as Natural Gas from Coal (NGC), and in British Columbia, it is referred to as Coalbed Gas (CBG). As this resource is known internationally as coalbed methane, we will refer to it as such in this report.

² <http://www.aapg.org/explorer/divisions/2005emd.cfm>

³ http://www.gastechnology.org/webroot/downloads/en/4ReportsPubs/4_7GasTips/Winter04/GasPotentialOfSelectedShaleFormationsInTheWesternCanadianSedimentaryBasin.pdf