GLOBAL STRATEGY &
INVESTMENT CONSULTING

ALBERTA

THE NEW INVESTMENT DESTINATION FOR OIL

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Overview

Over the past decade, Alberta has benefited from Canada's high growth momentum, fuelled by its natural gas reserves and abundant oil, its strong agriculture and forestry as well as its growing manufacturing base and low tax rates. Alberta's future is expected to be steady by the increased investment in oil sands, manufacturing and business services and its information and communications technologies.

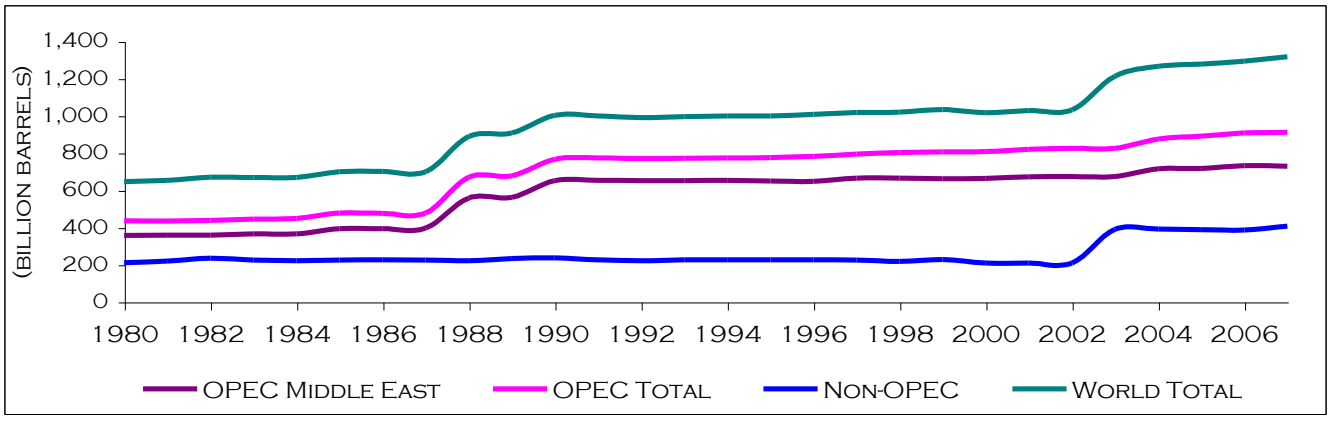
Crude oil - Demand may grow but growth may fall

Earlier, the growth in world oil was forecasted to be 2.11 million but due to declining US consumption and slowdown of global economies, the forecast has reduced to 1.03 million. The global demand growth for oil will be 47% lower this year. Oil demand may grow by 7,90,000 barrels a day this year compared with an estimate of 1.5 million barrels a day made at the beginning of this year. The overall demand for petroleum products in the US fell by 2.2%. China and India continued to consume more oil due to a shortage of electricity and fuel substitution. China's oil demand rose by 4.7% or 3,50,000 barrels a day in the first half of the year, slower than the first half of previous year. In comparison, demand for oil in India grew by 4.7% in the first half of this year. Fuel subsidies in China and India are the major reason for this growing demand.

Industry overview

Oil industry of Alberta is a key component of the Canadian economy which accounts for production, distribution and marketing, transportation, refining, exploration and thousands of jobs in exploration. Production of conventional crude oil is one of the largest sources for non-renewable resource revenue for Alberta. In the three fiscal years till 2006, it has, alone, accounted for USD 3.7 billion in payments to the provincial government as royalty. The industry is focusing on finding innovative and efficient ways of extracting a higher percentage of crude oil from conventional reservoirs. The present technology is able to recover an estimate of 26% from the ground.

Exhibit 1: World Crude Oil Reserves (2007)



Source: International Petroleum Encyclopedia, May 2007

As observed from Exhibit 1, the world's total crude oil reserve (in billion barrels) rose by almost 50% from 2002-03 to 2007. Country-wise, Canada stood second in reserves, achieving the first rank in terms of total life of reserves.

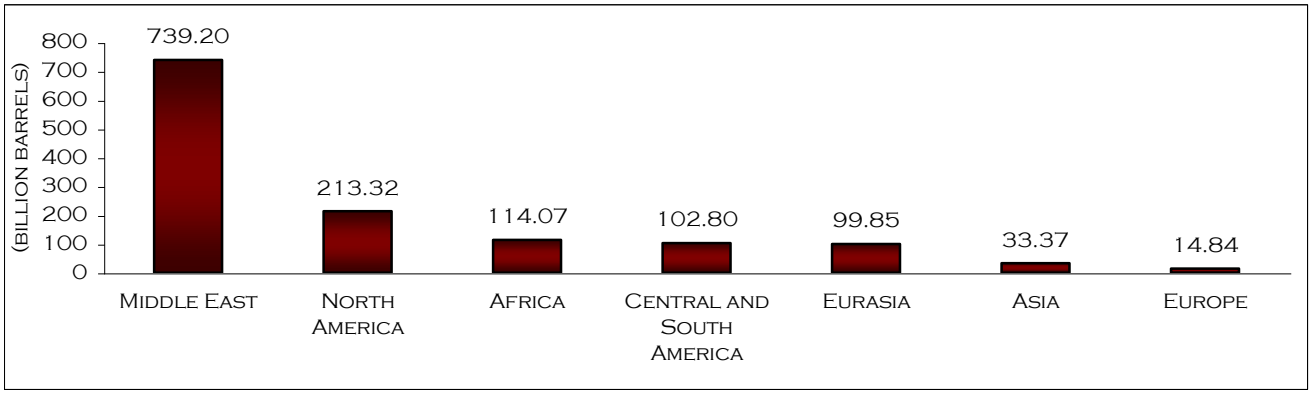
Table 1: Country-Wise Comparison 2007 (in order of decreasing estimated reserves)

Country	Reserves		Production		Reserve Life
	$(bbl)10^9$	$(m^3)10^9$	10^6 (bbl per day)	10^3 m^3 /d	Years
Saudi Arabia	260	41	8.8	1,400	81
Canada	**179**	**28.5**	**2.7**	**430**	**182**
Iran	136	21.6	3.9	620	96
Iraq	115	18.3	3.7	590	85
Kuwait	99	15.7	2.5	400	108
UAE	97	15.4	2.5	400	106
Venezuela	80	13	2.4	380	91
Russia	60	9.5	9.5	1,510	17
Libya	41.5	6.6	1.8	290	63
Nigeria	36.2	5.76	2.3	790	43
united states	21	3.3	4.9	780	12
Mexico	12	1.9	3.2	510	10
TOTAL (of top 12 countries)	**1,137**	**180.8**	48.2	**7,660**	**65**

Source: Oil and Gas Journal, Jan 2007, bbl – billion barrels, m^3 – cubic meters

Canada's proven oil reserves were estimated at 179 billion barrels as of 2007, placing it second only to Saudi Arabia. Over 95% of these reserves are in the oil sands deposits in the province of Alberta. Total Canadian oil production was about 2.7 billion barrels per day in 2007, giving Canada about 182 years of reserves at current production rates.

Exhibit 2: Proven Oil Reserves (Geographical Area Wise), 2007



Source: Oil and Gas Journal, May 2007

Competition for Oil

The global oil demand is rising and that too, fastest in the last 24 years. Last year, the total use of oil in the world was estimated at 82.6 million barrels a day. A quarter of which was burnt by the United States since American oil production being on a downswing since 1970. The competition for oil is heating up with emerging markets particularly India and China undergoing rapid industrialization. According to the Energy Information Agency, the world demand of oil is expected to increase by 54% in the next 25 years.

Constraints on growth of oil sands

Canada's oil industry faces some constraints, which, without new technologies may jeopardize growth. The cost of natural gas, the prominent choice of fuel for steam generation, heat and power is increasing. Canada's operations for oil sands consume 5% of the natural gas supply. With a constant growth in production and that too without any fuel substitution, it is estimated that oil sands operation will use approximately 1 billion cubic feet or the major part of gas per day for next 10 years at least. Another requirement for separation of oil from sand in surface mined operations is water. The production of a barrel of bitumen or synthetic oil requires 10 barrels of water for mining operations and 3 barrels in situ operations. Although most of the water is recycled, 20% of potable make-up water is required and thus a matter of need of sustainability and conservation is even more vital. To produce a barrel of synthetic crude oil, one third of energy in a barrel of bitumen is required. This makes the oil sands operations as single source emitters of greenhouse gases. The need to reduce CO2 emissions on account of growing concerns about climate change and reduction targets, add considerable additional risks to investment in oil sands. Investment costs and time are both required to bring the oil sands projects into production proving as major risks. The operating cost to produce a barrel in the United States is around 10 dollars. Mining, extraction and upgrading projects require about USD 3 billion in investments to produce 100,000 barrels per day. With production of upgraded oil increasing, the potential in market limitation for exported synthetic crude oil goes stronger.

Table 2: Canada Oil Production (Statistics, 2007)

Initial volume in-place	66.3 billion barrels
Remaining established reserves	1.5 billion barrels
Remaining ultimate potential	3.9 billion barrels
Successful oil wells drilled	1,769 wells
Wells drilled (all types)	16,702 wells
Production	525,000 barrels per day
2007/2008 Royalties	USD 1,606 million
Investment (upstream conventional oil and gas)	USD 115 billion (2000-2006)

Source: U.S. DOE. EIA & Alberta Energy, 2007

Over 99% of Canadian oil exports are sent to the United States, making Canada, not the number one Saudi Arabia, United States' largest supplier of oil. Canada has a highly sophisticated energy industry and is both an importer and exporter of oil and refined products. On a daily average, 2.623 million barrels of crude is produced in Canada while 1.86 million barrels exported to the U.S.

Table 3: Crude Oil and Refined Product Imports

Country	Thousand barrels per day (2007 average)
Canada	2,426
Mexico	1,533
Saudi Arabia	1,489
Venezuela	1,362
Nigeria	1,132
Algeria	670
Angola	507
Iraq	485
Russia	413
Virgin Islands	346

Source: U.S. DOE. EIA & Alberta Energy, 2007

Exhibit 3: SWOT Analysis

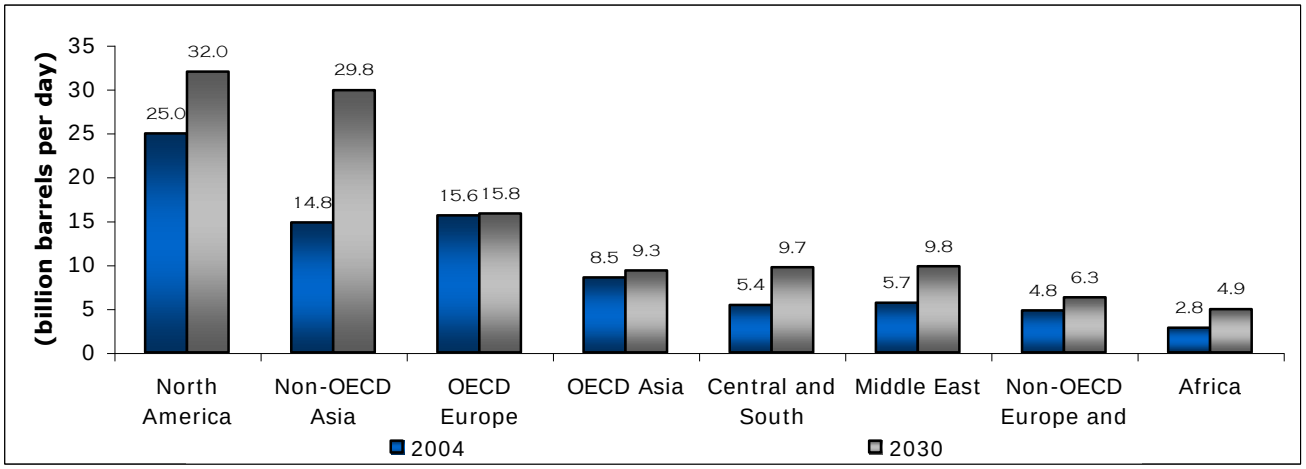
Strengths and Opportunities	Weaknesses and Threats
• It holds world's second largest oil reserves. • Product in high demand • Unconventional and Improved quality • Potential new investments in future.	• Technology used to produce oil is still not as good as compares to Saudi Arabia and the Middle East. • Emission of carbon dioxide could be an environmental hazard • Political complications.

Future outlook

The Alberta Oil Sands industry is growing at a steady rate; producing about 966,000 barrels of oil per day and is estimated to grow to around 3 million b/d (barrels per day) by the year 2020 and 5 million barrels per day by 2030. On-going projects will raise Alberta oil sands production to 1 million b/d (barrels per day) by this year and to 1.8 million b/d by 2010. The quality of oil produced can vary according to the type of reserves it comes from i.e. whether in-situ (requires drilling by steam injection pressure) or simple mining

Exhibit 4: World Oil Consumption

(By Region and Country Group for 2004 & Estimated 2030)



Source: Energy Information Administration (EIA)

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