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Canada's New Role in North American Energy Security

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Energy analysts have given renewed attention to Canada's position in the North American energy market since the September 11th attacks, because of fear that conflict might interrupt the flow of oil from the Middle East. There are currently \$30 billion (U.S.) in projects to develop the Alberta oil sands, in addition to new petroleum projects in Newfoundland, and major natural gas finds off the Atlantic coast. While Canada is already the single major oil exporter to the United States (ahead of both Saudi Arabia and Venezuela), its production could double by 2010. Canada's rapidly increasing energy production has major implications both for hemispheric relations and for the United States' strategic position.

In the aftermath of September 11th energy security has become a key concern for the United States. After the attacks many commentators argued that the United States relied too heavily on Middle Eastern sources of supply, and that this factor not only limited U.S. actions, but also obliged the U.S. to engage with regimes that it found to be distasteful if not dangerous. Newspaper columnists decried America's reliance on Saudi Arabia for energy, and some called for the United States to increase its energy self-sufficiency by opening the Arctic National Wildlife Refuge (ANWR) in Alaska to drilling. Richard Holbrook, the former U.S. ambassador to the United Nations, stated that Americans' "greatest single failure over the last twenty five years was our failure to reduce our dependence on foreign oil . . . which would have reduced the leverage of Saudi Arabia."¹ Yet in fact the United States' energy position is now stronger than it appears, and there is reason to believe that it will improve in the future, because of the growing importance of Canada as a source of petroleum.

The U.S. and Energy Security

The United States consumes a staggering amount of petroleum each day, roughly 20 million barrels. This makes the United States not only the world's largest

¹ David B. Ottaway and Robert G. Kaiser, "After Sept. 11, Severe Tests Loom for the Relationship," Washington Post, February 12, 2002, p. A-11; for a typical newspaper editorial on this topic see Charles Krauthammer, "Bears Join Battle Over Oil Dependency," Oregonian, November 11, 2001, B-6.

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consumer of oil, but also the largest importer. Until the 1950s, the United States produced almost all of the oil that it needed, but U.S. oil production has been in decline since 1970.² After the Arab oil embargo of 1973/74, American political leaders feared that the U.S. economy was vulnerable to economic pressure from developing nations. Many observers at the time also stated that foreign sources of supply compelled the United States to remain involved in a region that was politically unstable, and to depend on countries that were uncertain allies.

In 1975 these concerns led President Gerald Ford to create the Strategic Petroleum Reserve (SPR), a stockpile of oil that the United States could draw upon in case of an emergency. This measure has served to buffer the United States from supply shocks and economic blackmail. But as Gawdat Bahgat has noted, the increasing U.S. demand for oil has meant that the "SPR has shrunk from 115 days of import replacement in 1985 to around 54 days in 2001."³ In the aftermath of September 11th, President Bush ordered that the SPR be increased to 700 million barrels, its maximum capacity.⁴ This is an important reserve that buys the United States time in the event of a crisis. The United States is also in a much better position than some other industrialized economies. Japan, for example, is almost 100% dependent on imported oil.⁵ Nonetheless, the United States still imports significant amounts of petroleum from the Middle East, as it has done ever since World War Two.

One option for reducing this dependency would be conservation. In concert with increases in supply, efforts to reduce petroleum consumption can have a significant impact on America's energy security, and protect the U.S. economy from sudden supply-side shocks. An increase of mileage requirements for both cars and Sports Utility Vehicles is long overdue. As well, some energy analysts argue that the government should mandate the increased use of ethanol, which could create a huge market for this good: "An overall 10 percent ethanol blend in all gasoline would increase demand to over 12.5 billion gallons of ethanol per year."⁶ Many other steps could contribute to the United States' energy security: investment in public transportation, quotas for gas-electric hybrids, as well as measures to encourage the adoption of renewable energy resources.

² Gawdat Bahgat, "United States Energy Security," *The Journal of Social, Political and Economic Studies*, Vol. 26, No. 3 (Fall 2001): 524. For a table that provides figures on U.S. oil production and demand from 1970 to 2000 see *ibid*, 540-541. See also table I, *ibid*, 519. For a history of oil see Daniel Yergin, *The Prize: the Epic Quest for Money, Oil and Power* (New York: Simon & Schuster, 1991). For a comprehensive look at U.S. energy interests see the National Energy Policy Development Group, "National Energy Policy, The Report of the National Energy Policy Development Group: Reliable, Affordable, and Environmentally Sound Energy for America's Future," (Washington: U.S. Government Printing Office, May 2001). A copy of this document is available on the White House web page: <http://www.whitehouse.gov/energy/>.

³ Bahgat, "United States Energy Security," p. 535.

⁴ CBS website accessed on November 13, 2001: "Top of the Tanks says Bush," www.cbsnews.com/now/story/01,1597,316299-422,00.html

⁵ For more information on Japan's energy position see: Anonymous, "Energy Security Revisited (1): Japanese Fears and IEA Concerns," *Energy Economist*, Vol. 235 (May 2001): 3-7.

⁶ Jacqueline D. Broder, Robert A. Harris and Jeffrey T. Ranney, "Right Time for Commercialization: Using MSW and Industrial Residues as Ethanol Feedstocks," *Biocycle* Vol. 42, No. 10 (October 2001), 24.

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But Americans may lack the political will or the leadership to undertake even modest steps to decrease their petroleum dependency. It is also true, as Gawdat Bahgat notes, that “conservation alone is not the answer to the energy difficulties that the United States faces.”⁷ Fortunately, there are reasons to believe that the United States is in a better position with regard to energy security than has been commonly recognized.

The Growing Importance of Canada

The rise of major producers outside the Middle East has significantly weakened OPEC. Of all these countries, there is no question that Russia is the most important. As Edward L. Morse and James Richard noted Russia has increased its production by nearly a half million barrels a day for the last two years, and these increases will continue for the next few years.⁸ Richard and Morse are also correct that Russia is the only country that will be able to challenge the Saudis for global energy dominance in the near future, although it seems unlikely Saudi Arabia will lose its leading position.⁹ But there is also another player worth watching in energy markets, and that is especially important to the United States.

Canada has immense reserves of unconventional oil supplies that are now commercially viable, but which have received little attention. Canada produces vast amounts of all forms of energy –electricity, natural gas and oil- which make it the leading energy supplier to the United States. Canada is the largest producer of hydropower in the world, and the third largest producer of natural gas. U.S. utility companies have been quickly building new electrical power plants using natural gas, which is an environmentally cleaner fuel than coal: “Most of the rise in demand will be increasingly met by supplies from Canada, which has a very large gas resource base and easy pipeline access to the lower 48 states.”¹⁰ Recent large finds of natural gas in Atlantic Canada, and the completion of a new pipeline from this region to New England, are especially good news for “the most oil-dependent area in the country, particularly for home heating and electricity.”¹¹

The United States also imports more oil from Canada than it does from any single source in the Middle East: “During the first 10 months of 2000, Canada edged out

⁷ Bahgat, “United States Energy Security, 533.

⁸ Edward L. Morse and James Richard, “The Battle for Energy Dominance,” *Foreign Affairs* (March/April 2002), p. 24.

⁹ Some observers have argued that Morse and Richard overstate Russia’s potential threat to Saudi Arabia’s energy dominance. See Shibley Telhami and Fiona Hill, “America’s Vital Stakes in Saudi Arabia,” *Foreign Affairs* (November/December 2002), pp. 167-173; Cyrus H Tahmassebi, “Refuting the Myths,” *Foreign Affairs* (November/December 2002), pp. 175-176. For a discussion of U.S.-Russian relations in the context of oil see David G. Victor and Nadejda M. Victor, “Axis of Oil?” *Foreign Affairs* (March/April 2003), pp. 47-61.

¹⁰ Bahgat, “United States Energy Security,” p. 520. See also Peter Verburg, “We’re Running Out of Oil. Wonderful!” *Canadian Business* Vol. 72, No. 17 (October 29, 1999): 156.

¹¹ National Energy Policy Development Group, “National,” 8-7. See also *ibid*, 8-8.

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Saudi Arabia as America's largest outside source of oil and petroleum products."¹² Yet few Americans are aware of their growing reliance on Canada as a source of energy, in part because these supplies are secure. In a recent newspaper article, David Ignatius said: "Because of potential threats to Saudi production, the oil industry will look for new supplies- from places such as Russia, the Caspian Sea, and West Africa."¹³ There was no reference to America's leading oil supplier, which now provides 14% of all oil imports, or roughly 7% of all the petroleum consumed in the United States.¹⁴

The fact that Canada is overlooked as a source of supply is surprising, given that the oil sands in Alberta hold more reserves of oil than Saudi Arabia. But these reserves are not generally included in the discussions of the global energy picture, even by the most careful analysts. For example, Morse and Richard overlooked the Canadian energy reserves in their description of why the Middle East would remain critical to the world's energy markets for the foreseeable future: "A simple fact explains this conclusion: 63 percent of the world's proven oil reserves are in the Middle East, 25 percent (or 261 billion barrels) in Saudi Arabia alone."¹⁵ In the past the Energy Information Administration largely ignored the oil sands in its calculation of Canada's energy reserves, as did the Report of the National Energy Policy Development Group, which laid out President Bush's energy plan.¹⁶ Until recently neither the world market nor the U.S. government appreciated the extent to which technological changes had made an unconventional oil source viable. Yet in the aftermath of September 11th, the United States is placing a new priority on its Canadian energy supply to increase its energy security, which has drawn increased attention to the oil sands.¹⁷

The Oil Sands

Fort McMurray is a city of 51,000 people located in northeastern Alberta, where it sits on the so-called Athabasca deposit. In the late 1700s the first European explorers in the region noted pools of bitumen (a dark asphalt-like material, from which petroleum may be extracted), which leaked an oily film into the Athabasca River. The native peoples used this tarry material as caulking in their canoes. Underneath the boreal forest

¹² James Brooke, "Digging for Oil," *The New York Times*, January 23, 2001, p. C-6. The single most reliable source for energy information is the Energy Information Administration. Much of the above information on Canada's oil production was obtained from the Energy Information Administration web site, Canada page, February 2001 update: <http://www.eia.doe.gov/emeu/cabs/canada.html>.

¹³ David Ignatius, "U.S., Saudi Arabia both need to make changes." *The Oregonian*, November 7, 2001, p. E-11.

¹⁴ National Energy Policy Development Group, "National," p. 8-4.

¹⁵ Morse and Richard, "The Battle for Energy Dominance," p. 18.

¹⁶ "Canada has proven oil reserves of 4.7 billion barrels, as of January 2001." EIA web site, Canada page, February 2001 update. This figure is but a small fraction of the reserves held in the Alberta oil sands. See also the chart "Proven World Oil Reserves in January 2000," in Bush's official energy policy statement: The National Energy Policy Development Group, "National," 8-4.

¹⁷ For the comments of the U.S. ambassador to Canada on this topic see Sandra Cordon, "U.S. wants Canadian gas, oil, electricity more than ever, says ambassador," *National Post Online*, December 19, 2001: www.nationalpost.com/scripts/prin...es/stories/2001214/national-777026.html.

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and the muskeg lay the oil sands, which are composed of a mix of water, sand, clay and bitumen. There are four oil sands deposits (Athabasca, Cold Lake, Peace River and Wabasca) in Alberta, which together cover nearly 30,000 square miles. But the Athabasca deposit near Fort McMurray is the most important "both in size and potential reserves."¹⁸ The Athabasca deposit may have a trillion barrels of bitumen, while Alberta as a whole has somewhere between 1.7 trillion to 2.5 trillion barrels of bitumen.¹⁹ Although it is difficult to accurately measure what fraction of this volume can be profitably recovered, it is this resource that is changing Canada's energy relationship with the United States.

Petroleum is not pumped from the oil sands, but rather mined. What is distinctive about this process is the fact that there is little exploration risk. The challenge is to obtain and process the resource in a profitable manner. In order to achieve this goal, corporations and consortiums have pursued increasing economies of scale. At the Syncrude project outside Fort McMurray, one can stand on the edge of a huge excavation, a giant pit that stretches out towards the horizon. Looking down from the edge of the pit one can see the bulldozers shoveling the oil sands into the 320 ton trucks, which look like children's toys in the distance. When one of these trucks is filled with a load, "it weighs over a million pounds- more than two DC-10s."²⁰ The trucks run twenty-four hours a day, and all throughout the long Canadian winter. The drivers actually prefer to operate in the cold, because it makes it easier for them to move. The scale of the effort is impressive. According to the company, Syncrude alone has already "moved more earth than the volume of the Great Wall of China, the Suez Canal, the Great Pyramid of Cheops, and the 10 largest dams in the world... combined."²¹

This scale is the key to the recent economic success of oil sands operations. Processing the bitumen into petroleum presents significant environmental and economic challenges.²² These reserves have never been a significant factor in the international energy economy because the cost has always been too high. Two tons of sand need to be mined in order to produce one barrel of oil, and separating the oil from the sand and clay is expensive. But with new technologies and mega-projects, the cost of a barrel of oil is down to \$12-13 Canadian (\$7.50-8.00 U.S.), and it is still falling.

The Extent of the Reserves and the Cost of Production

Energy analysts have not given significant attention to the Alberta oil sands in the past, because of the high cost and technological challenges of producing oil from this

¹⁸ Syncrude, "Syncrude Fact Book," p. 3.

¹⁹ Ibid, p. 60.

²⁰ Syncrude, "Securing Canada's Energy Future: Inside the World's Largest Oil Sands Operation," Pamphlet.

²¹ Ibid.

²² Gordon Laird, "One Last Boom," Canadian Geographic, Vol. 121, No. 3 (May/June 2001), pp. 38-51. There are other environmental issues entailed with developing the oil sands. See MacCrimmon, Gail and Thomas Marr-Laing, Patchwork Policy, Fragmented Forests: In-situ Oil Sands, Industrial Development, and the Ecological Integrity of Alberta's Boreal Forest. (Drayton Valley, Alberta: The Pembina Institute, 2000), pp. 27-30, 47-50.

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resource. Until recently, most estimates of world petroleum reserves completely omitted the holdings in the oil sands for this reason, which inflated the relative size of the Middle East's holdings.²³ This approach is clearly flawed because current production from these reserves is too large to be ignored. But it is also difficult to estimate the total reserves held in the oil sands, because it entails judging the likely future price of oil as well as the cost of producing this resource. Given current technology, the Alberta Energy and Utilities Board has estimated that the reserves hold the equivalent of 300 billion barrels of oil (and there are even some higher estimates), which is larger than the total reserves of Saudi Arabia.²⁴ Yet this figure seems inflated, and even a lower figure that came to public attention late last year has attracted controversy. In late 2002 the Energy Information Administration recalculated Canadian reserves to take into account the holdings of the Albertan oil sands: "This year's rankings of oil reserves included a surprise that grabbed the attention of industry experts: Canada had leaped into second place, increasing its reserves from 5 billion barrels to 180 billion barrels."²⁵ This jump would have important implications for U.S. energy policy, given that the additional "175 billion barrels represent more than 50 years worth of American consumer gasoline consumption."²⁶ But as Jeff Gerth of the *New York Times* reported, there are no clear reporting standards for evaluating such petroleum resources.²⁷ Because it is difficult to find an objective measure for the scale of the reserves, it seems particularly important to place this resource in a financial context.

Large sums are being invested. Fort McMurray is a boomtown, in which finding a hotel with vacancies can at times be a challenge. The scale of the operations now being undertaken in the oil sands is staggering:

More than 17 oil-sands projects are expected to add 1.8 million barrels a day of new Canadian oil production by 2010, compared with 2.2 million barrels a day from the whole of Canada last year, including about 600,000 from the oil sands. Most of the new oil will be available for export to the U.S. Pipelines, power plants and refining facilities are in the works. About 30 energy companies have proposed spending a total of 42 billion Canadian dollars (U.S. \$27.4 billion) in northern Alberta by

²³ Bahgat, "United States Energy Security," p. 538. See also the chart "Proven World Oil Reserves in January 2000" in the Bush administration's official energy report, which ignores unconventional sources of oil, thereby indicating that the Middle East has 67% of the world's proven reserves: National Energy Policy Development Group, "National," 8-4. The report does refer to the oil sands elsewhere: *ibid.*, 8-7 and 8-8.

²⁴ Petroleum Communication Foundation, *Canada's Oil Sands, Heavy Oil: Developing the World's Largest Petroleum Resource* (Calgary: Petroleum Communication Foundation, 2000), 4. National Energy Board, *Canada's Oil Sands: A Supply and Market Outlook to 2015* (Calgary, Alberta: National Energy Board, 2000), 5. Syncrude, "Syncrude: Fact Book," 7. See also the Syncrude website: http://www.syncrude.com/who_we_are/01_06.html. See also James Brook, "Canada is Unlocking Petroleum from Sand," *New York Times*, January 23, 2001, C-1 and C-6; Anonymous, "Pay dirt," *Economist*, Vol. 355, No. 8175 (June 17, 2000), p. 63.

²⁵ Jeff Gerth, "Canada Builds a Large Oil Estimate on Sand," *New York Times*, June 18, 2003, p. W-1

²⁶ *Ibid.*

²⁷ *Ibid.*, W-7.

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2010, on top of the C\$10.7 billion invested in oil sands development in the past five years.²⁸

Investors have been attracted to the oil sands for two reasons. There is no exploration risk (every-one knows where the petroleum is) and the cost of producing this oil has declined steadily over the last two decades.

The question of price is absolutely critical. During the 1970s, producing petroleum from the oil sands had cost over \$30 a barrel Canadian. Even with reductions in the 1980s, it was difficult for companies to produce petroleum from the oil sands at a price that would be competitive on the world market. Investors hesitated to devote large amounts of capital to developing this resource, for fear that the price of oil might drop and render their projects worthless. With new economies of scale and technology, however, by the late 1990s this situation had changed, and petroleum from the oil sands was able to compete internationally even in a depressed world market.²⁹ Most companies intend to reduce their expenses still further in the near future: "Operating costs with current technology stand at \$8/bbl, according to press reports, although companies are targeting \$6/bbl to \$7/bbl for new projects."³⁰

This may be a tough goal to meet. Suncor has announced that its goal is to reduce its operating costs to \$10 Canadian a barrel, which is roughly U.S. \$6.30. But Suncor stocks recently tumbled when the company announced that it was actually producing oil for that quarter at \$16 a barrel Canadian, or \$10 U.S. a barrel. Still, Suncor announced that it would produce oil in the range of \$7.25 U.S. for the year overall.³¹ And there is an overall trend towards lower costs, which has kept investment flowing into northern Alberta, because it is unlikely that a sustained slump in the price of oil will make the oil sands unprofitable.

The Rapid Increase in Canada's Energy Production

The number of producers announcing new projects in the oil sands –and the scale of their undertakings- is impressive. Suncor, one of the largest producers in the oil sands, has just completed Project Millennium, which has increased production to 225,000 bbl/d. and the company has begun to obtain regulatory approval for Voyageur, "an expansion planned to increase production up to 550,000 barrels per day by 2010 to 2012."³² This means that Suncor "has nearly quadrupled Oil Sands production since 1992 and is expected to double production again in the coming decade."³³ Another company, Syncrude, produced 223,000 barrels a day in 2001 (81.4 million barrels for the

²⁸ Carlisle Tamsin, "It's Gooney, Unruly, Fabled –and Priceless," Wall Street Journal, August 9, 2001, p. A-9.

²⁹ Tom Armistead, "Greased by New Technology, Canada's Oil Sands are Booming," Engineering New Record, Vol. 248, No. 9, 24. National Energy Board, Canada's Oil Sands, 35

³⁰ EIA website, Canada page, February 2001 update.

³¹ Suncor web site: [http://www.suncor.com/2001!\\$/goals/asp](http://www.suncor.com/2001!$/goals/asp). "Suncor Shares Tumble After Earnings Warning," Toronto Star, April 5, 2002, Business, p. E-2.

³² Suncor's web site: http://www.suncor.com/2001AR/energy_growth.asp.

³³ Ibid.

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year). It plans to double production to 170 million barrels a year in 2008.³⁴ In July 2002 Canadian Natural Resources Ltd. sought regulatory approval for the Horizon oil sands project. By 2011 this project would reach its full production capacity of 270,000 barrels of bitumen a day, which will be "upgraded on-site to produce about 225,000 barrels per day of marketable crude oil products."³⁵ The estimated life span of the project is fifty years, during which it should recover 5.6 billion barrels of bitumen. The total capital cost of all the project stages would be \$4.45-5.25 billion (U.S.).³⁶ While these are only three companies (of more than a dozen companies with interests in the oil sands), these figures give some idea of how quickly the oil sands are becoming a major oil source.

It is difficult to estimate how much the oil sands will produce by the end of the decade, but it will certainly more than double current levels: ". . . with the world needing more energy, Canada's oil sands output averages 675,000 barrels per day. Production is expected to climb to 1.7 million barrels a day within a decade."³⁷ Other estimates are even higher. The Energy Information Administration cites a figure of 1.8 million barrels a day, while in an article in *The New York Times* James Brooke suggested that the total production of the oil sands will triple this decade, perhaps to two million barrels a day.³⁸ This is still relatively modest amount in terms of global energy needs, but it may have a significant impact in the United States, because of Canada's proximity to the U.S. market.

Atlantic Canada

Canada's increasing production is also not totally reliant on the oil sands. Newfoundland is an Atlantic province that did not become part of Canada until 1949. Historically, Newfoundland has been a poor province, which has relied upon the federal treasury for equalization payments, intended to ensure a minimal level of social services. With the closing of the cod fishery, Newfoundland's prospects might have looked bleak, had it not been for the discovery of oil offshore. Now the province is in the midst of a major economic boom:

Newfoundland's gross domestic product grew 5.3% last year with another 3% increase expected in 2001, according to a private sector average forecast. Both figures are well above the Canadian average and not far behind Ontario and Alberta. In fact, TD Economics is

³⁴ See Syncrude's website: <http://www.syncrude.com>.

³⁵ Canadian Natural Resources Limited, "Horizon Oil Sands Project Update," 3 (January 2002), 2. To obtain further information see the company's web site: <http://www.cnrl.com>.

³⁶ Ibid, p. 2.

³⁷ Chris Varcoe, "Oil Sands Projects Poised for a Spectacular Expansion," *Gazette* (Montreal), December 5, 2001, D-1. See also Jeffrey Jones, "Thirsty U.S. Looks to Canada," *Toronto Star*, May 25, 2002, Business, D-3.

³⁸ See the EIA web site, Canada page, February 2001 update; James Brooke, "Digging for Oil," C-1 and C-6. National Energy Board, *Canada's Oil Sands*, p. 1.

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forecasting a blistering 7.2% GDP growth rate in 2002, based on a doubling in offshore oil production.³⁹

Currently, Newfoundland accounts for perhaps seven percent of Canada's oil production, and its absolute production is increasing.

In January 2002 the Terra Nova field, 350 kilometers south east of St. John's, came on-line. This \$1.7 billion (U.S.) project will develop a reservoir of 370-470 million barrels of oil. By the end of the year it should be producing 124,000 bbl./day and it should produce at this rate for the next fifteen to twenty years. 315 kilometers to the east of St. John's lays the Hibernia field, which began production in 1997. Hibernia sits on a reservoir of three billion barrels of oil, of which 615 million barrels are probably recoverable. It is currently producing is 180,000 bbl/d and should continue do so for perhaps the next eighteen years.

There are also more fields in Atlantic Canada to be developed. Petro-Canada and Husky Energy announced in March, 2002 that they will invest \$1.47 billion (U.S.) to develop the White Rose oil field, which should produce 100,000 barrels of oil a day after it comes online in 2005.⁴⁰ While relatively modest amounts at present, the quality of the oil and combined yield of these fields is significant:

...Newfoundland could be producing half a million barrels a day by 2005, most of it for shipment to the northeastern U.S. That may seem like small potatoes compared with the two million barrels the Western provinces extract each day. But Newfoundland has a few advantages. The oil coming from the North Atlantic is light crude, as opposed to the heavy crude found in Alberta. Light crude is a more desirable product because it's much easier and cheaper to refine. There's a whole lot of it, too. CAPP estimates that there are about 4.6 billion barrels of oil in the Grand Banks basin, most of it still undiscovered.⁴¹

There may also be significant oil developments in other parts of Canada in the coming decade, especially off the northern coast of British Columbia, in particular in the Queen Charlotte Islands.

The Significance of Canada's New Role

³⁹ Peter Brieger, "Energy spin-offs lifting the Rock: blistering growth seen," National Post Online, August 13, 2001, www.nat...3/643137.html&q=Newfoundland%20Hibernia.

⁴⁰ "Newfoundland Oil Project Advances," Houston Chronicle, March 29, 2002, Business, 9; Jeffrey Jones, "Thirsty U.S. looks to Canada," Toronto Star, March 25, 2002, Business, p. D-3. Charles Mandel, "A Rigger's mess?" Canadian Business Vol. 75, No. 5 (March 18, 2002), pp. 65-69. Gavin Will, "Canadian Production Set to Boom," Petroleum Review, Vol. 52, No. 618 (July 1998): pp. 30-31. For information on the Terra Nova production see <http://www.terranovaproject.com>. On Hibernia see <http://www.offshore-technology.com/projects/hibernia>.

⁴¹ Dawn Calleja, "From Bleak to Sheik," Canadian Business, Vol. 73, No. 18 (October 2, 2000), p. 59.

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Despite the rapid growth in Canadian production, it is possible to overstate the importance of Canada as an energy producer, and in particular of the oil sands. While the total amount of petroleum in the oil sands exceeds Saudi Arabia's reserves, the quality of the oil is lower. Moreover, the total cost of production is much higher than in the Persian Gulf, which means that region remains the price setter on the international market, while Canada is a price taker. Nor do Canadian producers have large amounts of slack capacity that they can use to quickly increase production in the event of an international crisis. There are also environmental issues around creating oil from bitumen, in part because of the amount of energy that must be used to process the bitumen into heavy crude.⁴² Finally, oil production off of Newfoundland, in deep water in an area famous for its icebergs, poses significant technical and financial challenges. Still, Canada's oil production is increasing to such an extent that it will strengthen the Canadian economy, bolster the United States' energy security, and create one more challenge for OPEC.

While it is difficult to fully assess the likely future of Canada's energy industry, it is clear that Canada is becoming a significant energy producer, which will have significant benefits for the Canadian economy and society. Canada's oil industry employs nearly a half million Canadians and generates \$26 billion (U.S.) in revenue a year, according to the Canadian Association of Petroleum Producers (CAPP). Oil and gas exports have given Canada a healthy trade balance and made substantial payments to the federal and regional government.⁴³ The recent increase in petroleum prices have also brought benefits to Canada:

Canada is a significant energy exporter, and part of the current Canadian economic boom results from high world energy prices. In the first three quarters of 2000, energy accounted for almost two-thirds of Canada's large trade surplus. Canada is one of the few highly industrialized societies that benefits from higher world oil and other energy prices.⁴⁴

Canada has also undergone an important political and economic evolution over the last two decades, which have altered Canada's past policies of economic nationalism. These changes mean that it is unlikely that political changes could impact Canadian oil deliveries to the United States, or foreign investment in Canada's energy industry.⁴⁵

Canada has long had an ambivalent relationship with the United States, in part because Canadian identity is formed in reaction to its powerful neighbor. In the past, this encouraged the Canadian government to take a suspicious view of foreign investment,

⁴² For a balanced look at the oil sands' potential see Mike Byfield, "Raw Wealth," Report/News magazine (BC Edition) Vol. 28, No. 9 (April 30, 2001): pp. 28-33.

⁴³ Canadian Association of Petroleum Producers, "Submission to the Government of Canada- In the National Interest: A Canadian Oil and Gas Strategy for a North American Energy Market," (June 2001): pp. 1-8.

⁴⁴ EIA website, Canada page, February 2001 update.

⁴⁵ For a sophisticated look at the changes to Canada's energy policy between the 1970s and the 1990s see Michel Duquette, "From Nationalism to Continentalism: Twenty Years of Energy Policy in Canada," Journal of Socio-Economics, Vol. 24, No. 1 (Spring 1995), pp. 229-252.

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particularly in the energy industry. During the 1970s and early 1980s the government consistently sought to limit foreign involvement in Canada's economy.⁴⁶ During this period the Canadian government created the Foreign Investment Review Agency (FIRA), a state-owned oil company called Petro-Canada, and the National Energy Program.⁴⁷ During the mid-1980s, however, the political climate changed and the government abandoned old policies of economic nationalism. Moreover, Canada is unlikely to return to these policies because of international treaties and political changes.

In the late 1980s Canada signed the U.S.-Canada Free Trade Agreement (FTA) with the United States, which was expanded to include Mexico with NAFTA in 1994. These treaties guarantee American access to Canadian petroleum and investment opportunities. The political climate has also changed and Ottawa now looks to Alberta as a source of energy and funds. It is unlikely that any federal government could conduct policies that might harm energy companies because too many provinces now rely on revenues from energy production.⁴⁸ Of course, there is still hostility to the United States, particularly in some parts of academia, and some Canadians favor greater regulation of energy production to keep it mainly in Canadian hands.⁴⁹ But overall, the United States could not find a more secure source of energy than Canada from a geographic or political perspective. In the future, the mutual benefits of the energy trade between Canada and the United States will likely strengthen this already close relationship.

This is good news because the United States will continue to rely on imports to fulfill its petroleum needs. This dependency alone is not necessarily a problem, provided that the U.S. has enough sources of supply, which are friendly to the United States:

Oil dependency does not necessarily mean that the U.S. is vulnerable to an oil disruption. If the world oil supplies come from many producers and

⁴⁶ For a look at the U.S.-Canadian relationship see Seymour Martin Lipset, *Continental Divide: the Values and Institutions of the United States and Canada* (New York: Routledge, 1990); J.L. Granatstein and Norman Hillmer, eds. *For Better or Worse: Canada and the United States to the 1990s* (Toronto: Copp Clark Pitman, 1991); John Herd Thompson and Stephen Randall, *Canada and the United States: Ambivalent Allies* (Athens: University of Georgia Press, 1994); for a description from Canada from a nationalist (and highly anti-American perspective) see Joseph K. Roberts, *In the Shadow of Empire: Canada for Americans* (New York: Monthly Review Press, 1998).

⁴⁷ Will Ferguson, *Canadian History for Dummies* (Toronto: CDG Books Canada, Inc., 2000), p. 379. As the title suggests, this work is the most readable general history of Canada for the non-specialist. See also Roberts, *In the Shadow of Empire*, p. 73.

⁴⁸ Brian Bergman, John Demont, John Geddes and Ken MacQueen, "Energized," *MacLean's*, Vol. 114, No. 24 (June 11, 2001), 16-21. See also Richard Bloom, "Provinces Seen Facing Fiscal Tightening," *The Globe and Mail*, August 22, 2002, p. B-7.

⁴⁹ For Canadians' attitude to the U.S. see Jim Lynch and Julie Sullivan, "Canada's Relationship with the U.S. a blend of love, resentment." *Oregonian*, October 28, 2001, p. A-15. Jim Lynch and Julie Sullivan, "A New Bond at the Border," *Oregonian*, October 28, 2001, pp. A-1, 14. For some Canadians' call to increase energy regulation see Peter Verburg, "Crude Intervention," *Canadian Business* 74:7 (April 16, 2001): p. 76.

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one of them suddenly stopped exporting oil, this would have little impact on the U.S. and world economies, even at a high rate of dependency.⁵⁰

The problem for the U.S. government is that not all petroleum producers outside of the Middle East are friends of the United States. For example, the other large oil sands deposit outside of Canada is in the Orinoco river valley of Venezuela. This year Venezuela may produce up to 400,000 bbl/day from this resource, above its current production.⁵¹ While this is a positive trend, the U.S. has concerns about Venezuela's political stability and reliability as an ally. Indeed, the Bush administration unwisely supported a coup that briefly –and ultimately unsuccessfully- overthrew President Hugo Chavez in April 2002. The U.S. interest in having a secure source of supply means that increases in Canadian production may have more influence on the United States' energy security than the numbers alone might suggest.

Canada also represents a more reliable key to the United States' energy security than some other alternatives, such as drilling in the Arctic National Wildlife Refuge (ANWR), a major source of controversy. According to the Department of Energy, "ANWR's peak production rates could range from 1.0 to 1.35 million barrels per day (b/d), with initial ANWR production possibly beginning around 2010, and peak production 20-30 years after that."⁵² In comparison, the oil sands alone should be producing 1.7 million to two million barrels a day by 2010, when production from ANWR could only be beginning. The total reserves of the oil sands are also far greater than ANWR: "While debate in the United States swirls over President George W. Bush's support for opening the Arctic National Wildlife Refuge in Alaska to oil drilling, little attention has been paid to Alberta's oil sands, which have recoverable reserves 40 times as large as the estimated reserves of the Alaska refuge."⁵³ ANWR is not going to solve the United States energy security issues, and this realization may have recently led Congress to abandon the idea of oil drilling in the reserve. Canada can supply much more petroleum, in a much faster time frame.

This increased production also has implications for the Persian Gulf states and Saudi Arabia. By 2010, the total amount of Canadian production will also be significant in the global market place, because the total amount of petroleum drawn from the oil sands alone will be roughly equal to some of the larger cuts in production that OPEC has managed in the past. For example in 1998 the Saudis took the lead in persuading OPEC (as well as Mexico, Norway and Oman) to cut their production, which took 1.5 million barrels per day out of production.⁵⁴ Yet this cut is less than the total amount of production from the oil sands by the end of the decade, even without taking into account additional production from Atlantic Canada and elsewhere in Canada. It is also worth remembering that in some petroleum exporting countries, production has already peaked.

⁵⁰ EIA website, USA page, October 2001 update: www.eia.doe.gov/cabs/usa2.html. Also cited in Bahgat, "United States Energy Security," p. 526.

⁵¹ "Upgraded Bituminous Crudes Boosting World Supply," *Oil and Gas Journal*, April 1, 2002, p. 30.

⁵² Bahgat, "United States Energy Security," p. 521.

⁵³ Brooke, "Digging for Oil," p. C-1.

⁵⁴ F. Gregory Gause III, "Saudi Arabia Over a Barrel," *Foreign Affairs*, Vol. 79, No. 3 (May/June 2000): p. 89.

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Canada and Russia are two countries where significant growth in petroleum production will continue through at least the next decade.

With the rapid increase in Russia's production, it will be difficult for OPEC to maintain its ability to politically pressure the United States, if the U.S. is able to substitute Canadian oil for current supplies from the Persian Gulf. It is this reality that is beginning to create concern in the Middle East:

"Output from Canadian oil sands and heavy-oil projects, projected to equal as much as 80 percent of U.S. imports from the Middle East by 2007, may pose a threat to the Organization of the Petroleum Exporting Countries," Sheik Azki Yamani, head of the Center for Global Energy Studies said Monday...OPEC needs to be cautious because the projections "imply that the cost of alternative non-OPEC sources of oil like tar sands and heavy oil is not particularly high," Yamani, a former Saudi Arabian oil minister, said during the Canadian Energy Research Institute's World Oil Conference in Calgary.⁵⁵

OPEC currently faces significant challenges to its ability to inflate prices and dominate the world market for oil. In particular, Saudi Arabia faces an unfamiliar position of increasing weakness, given Russia's rapid production increases.

Saudi Arabia's total production will remain impressive, and with the lowest cost of production in the world, the Saudis will continue to be able to greatly influence the price of oil. But Saudi Arabia faces significant internal difficulties, because of the current regime's lack of fiscal restraint, which has driven the country deeply into debt. This situation will entail that the Saudi government spend funds from petroleum to meet internal needs for the foreseeable future.⁵⁶ If their market-share in the U.S. decreases, their influence will wane, at a time when it is already difficult for them to make financial sacrifices for political goals. Crown Prince Abdullah has promised that the Saudis will not use oil as a weapon, and the U.S. and Saudi Arabia have an alliance that stretches back to the end of World War Two. Nonetheless, the future of the House of Saud is uncertain, many Saudis sympathize with Bin Laden, and "liberal Saudi intellectuals have circulated a petition calling for the rupture of diplomatic ties with the United States and (following Iraq's example) an oil embargo."⁵⁷ The Saudi-U.S. alliance may or may not endure. In long term, however, not only will it be difficult for the Saudis to embargo the United States, it would be a less effective political instrument if they did so.

Conclusion

⁵⁵ Bloomberg News, "New Canadian Projects May Threaten OPEC," *Houston Chronicle*, January 29, 2002, Business, 8. For the international significance of the oil sands see Wayne Ellwood, "Mired in Crude," *New Internationalist*, 335 (June 2001), pp. 9-14.

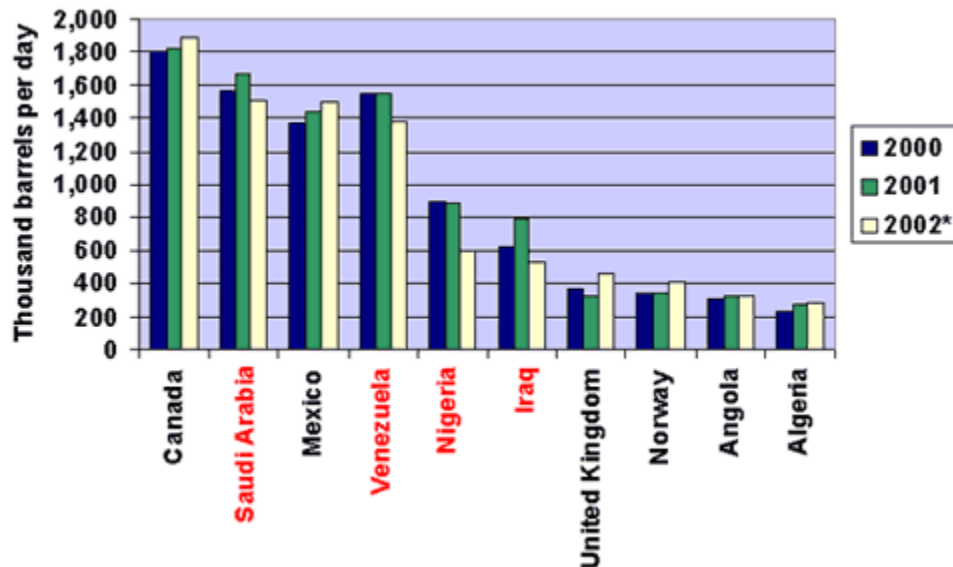
⁵⁶ Gause III, "Saudi Arabia," pp. 82-84.

⁵⁷ Eric Rouleau, "Trouble in the Kingdom," *Foreign Affairs*, Vol. 81, No. 4 (July/August 2002), 76.

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The growing power of Canada's oil industry has implications in terms of both North American energy security and the global energy trade. In a sense, the coming decade may have similarities to the 1950s, when Eisenhower implemented a quota system to require purchases to be made from Mexico and Canada as part of his energy policy. Oil from these suppliers replaced that from the Middle East, but consumers had to pay a higher price for it, which ultimately led to the policy's abandonment.⁵⁸ Bush is now once again stressing the importance of Mexico and Canada to U.S. energy policy.⁵⁹ In the aftermath of September 11th, there was an overwhelming sense in the United States that the government had not done enough to decrease the country's energy dependency on the Middle East. The President's own energy report had stressed that Gulf States would remain critical to U.S. energy interests, which is true in a global sense.⁶⁰ But the reality is that the United States' reliance on the Persian Gulf as an energy supplier may decrease for broader reasons of supply.⁶¹ Given the growing importance of Russia as a global oil producer, and Canada's emerging role as the main oil supplier for the United States, it is likely that OPEC will have less influence in Washington in the future. At a very difficult time, there is some reassurance in this fact, which means that the United States—at least in this area—may be less vulnerable than it has appeared.

Editor's note: "2002 Top 10 Countries from which the United States Imports Oil (thousand barrels per day)" source: <http://www.ott.doe.gov/facts/archives/fotw246.shtml>



⁵⁸ Bahgat, "United States Energy Security," p. 528.

⁵⁹ Ibid., 536. Shanda Deziel and Amy Cameron, "Oil-Burning Bush," *MacLean's*, Vol. 114, No. 22 (May 28, 2001), p. 16.

⁶⁰ National Energy Policy Development Group, "National," pp. 8-4 and 8-5.

⁶¹ Ann Myers Jaffe and Robert A. Manning, "The Shocks of a World of Cheap Oil," *Foreign Affairs* Vol. 79, No. 1 (January/February 2000), p. 19.