



CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

How does Canada Respond to Stranded Asset Risk?

by Amy Myers Jaffe
April, 2017

ENERGY SERIES

HOW DOES CANADA RESPOND TO STRANDED ASSET RISK?

by Amy Meyers Jaffe

April, 2017



CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

Prepared for the Canadian Global Affairs Institute
1600, 530 – 8th Avenue S.W., Calgary, AB T2P 3S8
www.cgai.ca

©2017 Canadian Global Affairs Institute
ISBN: 978-1-988493-33-6



At the end of 2014, when Saudi Arabia was assessing its loss of market share worldwide, the tally showed a loss of close to 500,000 barrels a day from the U.S. market, mainly on the back of competition from Canada. At the time, the increase in coking refining capacity in the U.S. Midwest strongly favoured Canadian heavy crude while U.S. crude imports, mainly to the U.S. Gulf Coast, from the Organization of the Petroleum Exporting Countries (OPEC) had been slashed in half since oil's price peak in 2008.

Much ink is being spent writing about how OPEC (read Saudi Arabia) has not been successful in fashioning a price war against U.S. shale producers and Russia. But in the long-term game of setting the stage for competition to prevent prolific oil reserves from getting stranded, OPEC has achieved a round one victory against the Canadian oilsands. The oilsands are an important target for Saudi Arabia since it cares about long-term market share and continued access to the U.S. market. Saudi Arabia has both commercial and vital geopolitical interests in maintaining its U.S. market share and is taking concrete steps to protect this market, including its recent announcement of possible expansions in its U.S. Motiva refining network.¹

The stakes for Canada are high in terms of jobs and government revenues. Previous forecasts were that Alberta oilsands royalty revenues would be quite considerable at C\$676 billion for the period of 2016-2036 or roughly US\$7.14 to US\$13.50 per barrel of oil produced, should oil prices average \$50 a barrel.² Current oilsands production remains high at 2.2 million barrels a day. Oilsands operations employ roughly 130,000 people, according to Alberta government statistics.

In a sign that the Saudi strategy is, in fact, succeeding where Canada's oilsands are concerned, Marathon Oil, Statoil, Total and, to a large extent, Shell and ConocoPhillips have announced their exit from Canada's oilsands resources.³ Under pressure from the U.S. Securities and Exchange Commission, ExxonMobil has written down its massive and costly Kearl oilsands project. Considering that the Canadian oilsands represent a major heavy crude competitor to Saudi Aramco which owns refining capacity in the United States, it is reasonable to question whether Saudi Arabia, which, like Canada, holds between 50 and 70 years' worth of low-cost oil reserves, has targeted the Canadian oilsands for stranding.

Canadian companies have stepped up the purchases of oilsands assets on the sale block from the international majors but it remains unclear whether reducing project size and deferring projects will be sufficient to allow these companies to keep the oilsands as an expanding production domain. Steam-assisted gravity drainage (SAGD) project phasing to allow for continuous improvement in operational efficiency, well design and well pad construction are hoped to be effective in reducing costs and requiring less land reclamation when production ends. The Canadian Association of Petroleum Producers (CAPP) has lowered its 2030 outlook for oilsands production several times in recent years.

Lowering costs of production⁴ is of critical importance in today's volatile oil market. At a recent U.S. oil gathering in Houston, top executives from the world's largest firms such as ENI and



Statoil noted that they lowered hurdle rates for new upstream projects to \$30 a barrel.⁵ By contrast, the Canadian Energy Research Institute (CERI) reports that the West Texas Intermediate equivalent costs for a greenfield SAGD project have fallen 25 per cent to US\$60.52 a barrel based on lower operating costs.⁶ Stand-alone mines are higher at US\$75.73 a barrel. Thus, getting down the costs of next generation oilsands projects is existential.

Moreover, the cost challenges for the oilsands bleed into the health of Canada's natural gas industry as well. In a recent Citibank research brief, entitled "A Revival of Oil Sands, New Pipeline Deals and Competitive Costs to Give Canadian Gas a Lift", Citi nonetheless noted that "Canadian gas remains in a constant battle for market share, as abundant shale resources throughout North America have created gas-on-gas competition." For now, the opening of TransCanada's Mainline's open season helped create markets for Canadian gas. However, longer term access to U.S. markets, especially California, is questionable, given rising supply from the Permian Basin, the Niobrara play and increased competition from utility-scale renewable projects paired with battery storage. The U.S. East Coast is increasingly supplied by regional pipelines such as Algonquin/TETCO from the Marcellus and Utica plays, while Massachusetts and New York state are also seeking to increase the proportion of renewable energy in their electricity mix. If, on top of competition for the U.S. electric power market, Canadian gas producers find their gas is not needed in Alberta for oilsands operations, the longer term outlook for Canada gas reserves could be similarly dim.

The Canadian government has few levers to pull to assist its oil and gas industry so it must decide fundamentally what its priorities are. The oil majors' withdrawals from resources should be taken as a wake-up call that these companies do not anticipate current technology will lower costs sufficiently in the future.

In the short run, if protecting jobs and preventing more companies from exiting Alberta are more of a priority than revenues, Canadian provinces might need to reconsider how companies are taxed for riskier, higher cost oilsands projects. Diversification of government revenues to other sources of income as Canada shifts increasingly to non-resource related industries would be a prerequisite for this strategy.

In past times of oil price volatility, governments have adjusted their royalty payments systems to be more responsive to changes in nominal oil price levels. The current oilsands regime includes a sliding scale that automatically calculates a reduced tax burden during times of low prices and restores higher royalty rates when oil prices are rising for both pre-payout and post-payout net royalties. While the pre-payout tax is very low when the oil price benchmark is below \$55 (Canadian dollars for West Texas Intermediate crude oil), the withdrawal of major companies from Canadian assets indicates that additional incentives are needed. A longer tax holiday and even infrastructure investment subsidies might be needed to stimulate renewed investment in anything other than incremental extensions to existing operations, given the ongoing risks of uncertainty about long-term oil prices. Costs for greenfield projects remain well above those for



competing resources around the world, including reserves inside OPEC and in the U.S. shale plays.

Adjusting royalty rates and taxes during times of low oil prices was an effective strategy used by the U.K. government to protect North Sea investment during the oil price war of the 1980s.⁷ More recently, Russia has moved to protect the competitiveness of its costly Yamal Liquefied Natural Gas (LNG) project by offering developers, led by Russian firm Novatek, a 12-year tax holiday from the mineral extraction tax and allowing the LNG project to be free from export taxes. The Russian government has also subsidized the construction of port facilities to be used by the project as part of an infrastructure development plan for the Russian Arctic.⁸

If the politics of adjusting royalty systems are challenging, the Canadian government should consider expanding other kinds of forward-looking programs that signal a commitment to the Canadian oil and gas industry's long-term future, such as an even larger expanded program for oilsands research and development. Long-run programs for market creation for Canadian natural gas could also be helpful, such as federal incentives to move natural gas into trucking or to sell Canadian LNG fuel into the U.S. trucking market.

Abundant, inexpensive fossil natural gas is leading to increases in the natural gas vehicles market in the U.S. with several states such as Oklahoma and Utah offering incentives.⁹ Major corporations are already investing billions of dollars to build infrastructure to feed natural gas into the U.S. trucking industry and expand its use in fleets. United Parcel Service (UPS) has been ordering more gas-powered tractors in recent years and Cisco, H-E-B, Pepsi, Verizon, Ryder, AT&T, Waste Management and Walmart are also trying out natural gas trucks. In the state of California, natural gas fuelling infrastructure is expanding, especially in and around the ports of Los Angeles and Long Beach. China is also focused on expanding the use of natural gas in its on-road freight sector with a growing market for LNG fuel for trucks.

Blending natural gas fuel with renewable natural gas (RNG) from biomass can potentially help improve the climate performance of such a market.¹⁰ Given the slightly lower carbon intensity of fossil natural gas, switching from conventional fuels like gasoline and diesel into fossil natural gas achieves a small reduction in emissions. RNG has substantially lower carbon intensity and adding it to natural gas fuel can achieve substantial reductions in overall climate performance in transportation.

CONCLUSION

Canada is one of the world's most important oil producers but it is facing a high degree of stranded asset risk. In particular, the Canadian oilsands represent a specific target of market share competition with global oil powerhouse Saudi Arabia and thus face cost pressures from current oil price levels. The cost challenge of new oilsands projects, combined with the possibility that Saudi Arabia and other major producers will continue to target high-cost producers like the oilsands for stranding, has prompted several major international oil



companies to sell their oilsands assets to local Canadian firms. Lowering the cost of production will be vital to the local Canadian firms who have purchased the reserves and increased their exposure to stranded asset risk.

The oilsands industry employs 130,000 people and is an important contributor to the Canadian economy. Provincial governments will have to consider the appropriate response to the possibility that global oil prices will not return to the levels needed to ensure a steady flow of capital to exploit the remaining oilsands reserves. In light of recent developments, Canadian provinces might need to reconsider how companies are taxed for riskier, higher cost oilsands projects. Other producers, notably Russia, are offering tax holidays and government subsidies to infrastructure development for oil companies to encourage development of Arctic resources. Precedents exist for tax regimes that vary widely with the price of oil but it would require diversification of provincial government revenues to other sources of income and a concerted effort for Canada to shift increasingly to non-resource related industries.

Other policy levers that could be considered to lower the chances of stranding are increased public commitment to R & D spending to find technologies and processes to lower the break-even costs of new oilsands production projects and long-run programs to increase market creation for Canadian natural gas. Since strategic capital programs in oil and gas are set many years in advance, a timely response to long-term competition from other oil producers is of critical importance to meet the challenges that are already emerging in the global oil world. The longer it takes for Canada to forge a strategic response, the greater the risk of stranding will be added for oilsands reserves. Producers who get projects off the ground sooner will maintain a first mover advantage that may discourage investment in remaining reserves if demand for oil fails to exhibit sufficient growth to accommodate all players in the coming decades.

¹ <http://www.reuters.com/article/us-saudi-aramco-exclusive-idUSKCNOWK2HX>

² "Canadian Oil Sands Supply Costs and Development Projects (2016-2036)," Canadian Energy Research Institute (CERI), *Study No. 163*, February 2017.

³ <http://business.financialpost.com/news/economy/statoils-exit-starkest-sign-canadas-oilsands-resource-has-lost-its-lustre>

⁴ <https://www.ft.com/content/47dbcb80-08ae-11e7-ac5a-903b21361b43>

⁵ <https://www.ft.com/content/47dbcb80-08ae-11e7-ac5a-903b21361b43>

⁶ "Canadian Oil Sands Supply Costs and Development Projects (2016-2036)," Canadian Energy Research Institute (CERI), *Study No. 163*, February 2017.

⁷ <https://www.gov.uk/government/consultations/review-of-the-oil-and-gas-fiscal-regime-a-call-for-evidence/review-of-the-oil-and-gas-fiscal-regime-a-call-for-evidence>

⁸ <https://www.oxfordenergy.org/publications/russian-Ing-progress-delay-2017/>

⁹ <https://trid.trb.org/view.aspx?id=1345491>

¹⁰ <https://www.arb.ca.gov/research/apr/past/13-307.pdf>

▲ About the Author

Amy Myers Jaffe is UC Davis Executive Director of Energy and Sustainability. She is a leading expert on global energy policy, geopolitical risk, strategic energy policy, corporate investment strategies in the energy sector, and energy economics. She has a joint appointment to the Graduate School of Management and the Institute of Transportation Studies (ITS-Davis). At ITS-Davis, Jaffe heads the fossil fuel component of the Sustainable Transportation Energy Pathways (NextSTEPS) program. Prior to joining UC Davis, Jaffe served as director of the Energy Forum and Wallace S. Wilson Fellow in Energy Studies at Rice University's James A. Baker III Institute for Public Policy. Jaffe is widely published, including as co-author of "Oil, Dollars, Debt and Crises: The Global Curse of Black Gold" (Cambridge University Press, 2010, with Mahmoud El-Gamal). She is a member of the US National Petroleum Council and the Council on Foreign Relations. She holds a bachelor's degree in Near Eastern Studies and Arabic from Princeton University.

Canadian Global Affairs Institute

The Canadian Global Affairs Institute focuses on the entire range of Canada's international relations in all its forms including (in partnership with the University of Calgary's School of Public Policy), trade investment and international capacity building. Successor to the Canadian Defence and Foreign Affairs Institute (CDFAI, which was established in 2001), the Institute works to inform Canadians about the importance of having a respected and influential voice in those parts of the globe where Canada has significant interests due to trade and investment, origins of Canada's population, geographic security (and especially security of North America in conjunction with the United States), social development, or the peace and freedom of allied nations. The Institute aims to demonstrate to Canadians the importance of comprehensive foreign, defence and trade policies which both express our values and represent our interests.

The Institute was created to bridge the gap between what Canadians need to know about Canadian international activities and what they do know. Historically, Canadians have tended to look abroad out of a search for markets because Canada depends heavily on foreign trade. In the modern post-Cold War world, however, global security and stability have become the bedrocks of global commerce and the free movement of people, goods and ideas across international boundaries. Canada has striven to open the world since the 1930s and was a driving factor behind the adoption of the main structures which underpin globalization such as the International Monetary Fund, the World Bank, the World Trade Organization and emerging free trade networks connecting dozens of international economies. The Canadian Global Affairs Institute recognizes Canada's contribution to a globalized world and aims to inform Canadians about Canada's role in that process and the connection between globalization and security.

In all its activities the Institute is a charitable, non-partisan, non-advocacy organization that provides a platform for a variety of viewpoints. It is supported financially by the contributions of individuals, foundations and corporations. Conclusions or opinions expressed in Institute publications and programs are those of the author(s) and do not necessarily reflect the views of Institute staff, fellows, directors, advisors or any individuals or organizations that provide financial support to the Institute.