

Policy Brief No. 115 – September 2017

Evaluating the Need for Pipelines: A False Narrative for the Canadian Economy

Jeff Rubin

Key Points

- The claim that additional pipeline capacity to tidewater will unlock significantly higher prices for bitumen is not corroborated by either past or current market conditions.
- Recent international commitments to reduce global carbon emissions over the next three decades will significantly reduce the size of future oil markets. Only the lowest-cost producers will remain commercially viable while high-cost producers will be forced to exit the market.
- The National Energy Board should consider a rapidly decarbonizing global economy when assessing the need and commercial viability of further pipelines in the country and use Western Canadian Select (WCS) as the price benchmark when evaluating the economic viability of any new oil sands projects. Pension plans need to stress test their long-term investments in the oil sands in the context of a decarbonizing global economy.

Introduction

Canadians continue to be told that new pipelines are key for Canada's economic future, even as the government, like most around the world, has committed the country to unprecedented cuts in carbon emissions over the next several decades. At stake is the future of the oil sands, whose spectacular growth on the back of triple-digit oil prices was once seen as the principal engine of national economic growth. But in the aftermath of a global supply glut that has more than halved world oil prices, oil sands stocks have suffered a massive loss in value, prompting a steady exodus of global energy giants from the sector. In view of these developments, do new pipelines make much commercial sense in the context of today's oil market, and will they make any more sense in the context of tomorrow's emission-constrained market?

Does Access to Offshore Markets Really Provide Higher Prices for Oil Sands Bitumen?

The oil sands industry has argued that not only are pipelines vital for future production growth, but the access they would provide to tidewater, and hence overseas markets, would unlock significant pricing power currently denied to

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Jeff is currently researching the implications of shifting US trade, energy and environmental policies on the Canadian economy under the Trump administration, including a critical assessment of how Canada's auto industry has performed relative to its NAFTA trading partners, an exploration of whether globalization has left Canadian workers behind and an examination of whether shifts in US energy and environmental policies will have a discernible impact on the future of Canada's fossil fuel industries.

Jeff began his career in 1982 at the Ontario Ministry of Treasury and Economics. In 1991, he was appointed chief economist and managing director at the investment bank CIBC World Markets. In 2007, Jeff was appointed the firm's chief equity strategist in addition to his responsibilities as chief economist.

Jeff resigned from CIBC World Markets in 2009 to pursue a career as an author. His first book, *Why Your World Is About to Get a Whole Lot Smaller*, was an international bestseller, and was favourably reviewed in both *Time* and *Newsweek*. The book was the number-one-selling non-fiction book in Canada and won the National Business Book Award, as well as being long-listed for the Financial Times and Goldman Sachs Business Book of the Year Award. Since then, he has written two other bestsellers, *The End of Growth* and *The Carbon Bubble*.

the landlocked resource. It is even often claimed that if Alberta's bitumen could reach distant offshore markets in Asia and Europe, it would fetch world oil prices, a threshold the fuel typically trades anywhere from 20 to 30 percent below.

While that narrative is commonplace in the country's business media, bitumen is not conventional oil, and nowhere in the world does it command the same price. It is an inferior crude with high sulphur content that must first be upgraded before most refineries can use it as a feedstock. It is the physical properties of bitumen, not the location where it is sold, that dictates a price discount to conventional light oil such as West Texas Intermediate (the US oil price benchmark) or Brent (the world oil price benchmark).

Market location does, however, affect the size of the price discount at which bitumen trades in relation to conventional oil, but in a manner very different than what the oil sands industry claims. While market diversification is, in principle, a laudable pursuit, in the case of Alberta's bitumen it would result in even lower prices than oil sands producers currently get in their one and only North American market.

In fact, WCS, the benchmark price for oil sands product in the North American market, offers higher prices for bitumen than elsewhere in the world due to the concentration of heavy oil refineries along the US Gulf Coast. These refineries are also configured to receive a similar type of supply from Mexico and Venezuela.

Comparable grades of heavy oil, such as Mexican Maya crude, typically trade at more than US\$8 a barrel less, not more, in Asian markets compared to the prices Gulf Coast refineries pay. Similarly, in Europe, Mexican Maya typically trades at more than US\$3 per barrel lower than it does on the US Gulf Coast (Rubin 2016b, 7). The offshore markets that would be accessed through new pipelines to tidewater would fetch even lower prices than the money-losing prices the oil sands producers already receive in North America, an outcome that is far from serving as the desperately needed saviour that would enhance pricing power and unlock billions of dollars of additional revenues.

So why build new pipelines to supply offshore markets that are even less favourable than those found in North America? In the industry's mind, pipelines provide "optionality." In other

words, they provide the industry with the option to access new markets in the future when, presumably, higher prices will render new oil sands production profitable. And those offshore markets, however unfavourable from today's pricing standpoint, are now viewed by the industry as more likely to support future production growth than the US market.

While close proximity to the United States, the world's largest oil market, once spurred the rapid expansion of oil sands production, today that is no longer the case. With the advent of much cheaper oil from prolific shale formations such as the Permian Basin in Texas, oil sands producers now see few, if any, growth prospects in the market that they were originally intended to serve.

But in a global market still mired in a seemingly endless supply glut, demand for Alberta's bitumen in no greater abroad than it is in the United States. Even with the aid of the deepest cutbacks in Organization of the Petroleum Exporting Countries (OPEC) production since the Great Recession, oil prices languish at levels less than half of the triple-digit thresholds that once drove the massive development of the oil sands. Instead of opening up market space for more heavy oil production from Canada, OPEC's retrenchment has instead spurred production of lower cost and higher quality light oil from US shale formations.

US Shale Producers Have Been Biggest Beneficiaries of OPEC Production Cuts

As nimbler shale producers in the United States — with much shorter lead times and much smaller start-up costs — have ramped up production, oil sands producers have received little, if any, benefit from the cutbacks in OPEC production. While the sector will continue to see some production growth from the completion of ongoing projects,¹ none

¹ Most notably the opening of the Suncor-led Fort Hills mine, although the French oil giant Total has suspended further funding and is reportedly trying to sell its interest in the project (Lewis 2017), and the Horizon Phase 3 project by Canadian Natural Resources. Together, the two projects could add more than 200,000 barrels per day (bpd) of heavy oil to an already saturated market.

would be initiated in today's market environment. Indeed no greenfield projects could be considered in light of the current trading range of WCS, which is in the US\$30–US\$40 a barrel range, roughly half the cost of new oil sands projects.²

Similarly, the explosive growth of US shale gas production will adversely impact Canadian natural gas exports and the pipelines that currently carry the fuel to US markets. According to the US Energy Information Administration, expected production growth from the Marcellus and Utica shale gas formations will gradually displace pipeline imports from Canada (McCarthy 2017b).

The faltering economics of oil sands production has led to a steady exodus of international energy giants that have sold their oil sands assets and are exiting the sector in favour of much lower cost alternatives around the world, in particular shale properties in Texas. Shell sold its US\$8.5-billion stake in the Athabasca oil sands mining project to Canadian Natural Resources (Lewis and McCarthy 2017). Similarly, Conoco Phillips sold its oil sands assets to Canadian-based Cenovus (Lewis, Jones and Cryderman 2017). Both BP and Chevron are also abandoning the resource, with the former selling its 50 percent share in the Sunrise project and the latter intending to sell its 20 percent share in the Athabasca oil sands operation (Tilak and Williams 2017).

Those that remain have had to take massive writedowns on their oil sands assets. Exxon had to write off US\$16 billion of its oil sands assets, including all 3.5 billion barrels of bitumen reserves at its massive and still expanding Kearl Lake mine (Smith 2017). Following the huge decline in oil prices since 2014, Exxon's high-cost oil sands resource no longer meets the US Securities Exchange Commission's definition of a proven reserve, which is one that can be commercially exploited at today's prices with current technology. Having already spent billions of dollars to develop the mine, Exxon and its Canadian subsidiary, Imperial Oil, have little choice but to complete the ongoing expansion, whose increased output only adds to the current glut of oil already weighing on the price of WCS.

² For a description of the costs of new oil sands projects, see Rubin (2016a).

It may seem curious that just as so many major global oil firms are exiting the oil sands, or being forced to write down the value of their assets there, regulatory approval has been given on both sides of the border for new pipelines to service the troubled sector. In Canada, the Trudeau government has given its approval for a twinning of Kinder Morgan's existing Trans Mountain pipeline that would almost triple the amount of oil flowing to its terminus in Burnaby, British Columbia, and result in a seven-fold increase in tanker traffic in Vancouver Harbour to transport it. In addition, the Trudeau government has already approved the replacement of Enbridge's Line 3 pipeline that will double the throughput of the replaced line to 760,000 bpd (Bell 2017). Across the border, President Donald Trump has made good on his election campaign promise to finally approve TransCanada's Keystone XL pipeline, reversing an earlier rejection of the project by his predecessor, President Barack Obama, on climate change grounds.

But regulatory approvals, even elusive ones at the US presidential level, are no substitute for viable economics. At current prices for WCS, the greenfield projects that would be needed to supply new pipelines could not be financed in today's weak oil markets.

TransCanada admitted as much when it announced it was having trouble lining up shipper agreements (long-term supply contracts) for its long-delayed Keystone XL pipeline project, which is intended to move 830,000 bpd (McCarthy 2017a). Meanwhile, the incoming New Democratic Party government in British Columbia, in coalition with the Green Party, has withdrawn the province's earlier support for the twinning of Kinder Morgan's TransMountain pipeline and has vowed to do everything in its power to prevent it should the pipeline twinning succeed against court challenges.

Global Efforts to Mitigate Climate Change Pose Even Greater Challenges to the Oil Sands in the Future

Notwithstanding today's many hurdles, the industry has pitched investors on the notion that the economic lifetimes of new pipelines and the oil sands operations that would supply them are long term, spanning the course of decades. While current market conditions may not justify new pipelines, oil sands producers claim the course of future conditions will. Inevitable growth in global oil demand will ultimately raise oil prices sufficiently to justify a future expansion of oil sands production, all the more so following the recent cutbacks worldwide in the oil industry on capital expenditures to find and develop new reserves. But more and more investors, as evidenced by the plunging valuations of oil sands stocks as well as those of other fossil fuel producers, are finding this a hard argument to buy into, in light of global commitments to reduce carbon emissions.

Instead, investors are increasingly recognizing that global efforts to mitigate climate change compel urgent and unprecedented reductions in fossil fuel consumption.

Even the previous international target of capping the increase in average global temperature to 2°C required that global oil demand peak by the end of this decade and subsequently fall by one-quarter over the next two and a half decades. The newer, more stringent target of holding the temperature rise to less than the 2°C threshold (adopted at the twenty-first session of the Conference of the Parties [COP21] in Paris in 2015) requires world oil consumption to fall by as much as 50 percent by midcentury.

Most of the expected decline in oil consumption will come as a result of its phaseout and ultimate replacement as a transit fuel, which currently accounts for more than two-thirds of the fuel's worldwide usage. The United Kingdom, France and Norway have already declared that by 2040 they will ban the sale of gasoline- and diesel-

powered automobiles, setting a marker that other countries are likely to emulate. These moves follow China, home to the world's largest vehicle market, deciding that by 2025 one-quarter of all vehicles on its roads must be either electric or hybrid (Castle 2017; Schwartz and Jourdan 2017). Anticipating such moves, auto manufacturer Volvo has said that the company will cease producing fossil-fuel-powered cars after 2019, while virtually every major vehicle manufacturer has made the development of electric-powered cars their key priority.

Yet those are precisely the time frames during which oil sands producers and pipeline companies expect oil sands production to grow rapidly, providing the critical economic rationale for new pipelines to be built. Instead of benefiting from another three decades of business-as-usual growth, where world oil demand can reliably be counted on to grow at least one percent a year, oil sands producers can expect to be operating in a sharply contracting global market that would shut down as much as half of today's nearly 97 million bpd of production.

Conclusion and Policy Recommendations

In the emission-constrained world around the corner, only the lowest-cost producers will remain viable and they will come to dominate the global oil market like never before. With production costs as low as US\$10 a barrel in Saudi Arabia and neighbouring countries, most of the world's future oil production will come from OPEC producers in the Middle East. While today OPEC is curtailing its own production in a temporary attempt to buttress oil prices, in tomorrow's rapidly decarbonizing global economy the onus of adjustment to a steadily shrinking oil market will ultimately fall squarely on the shoulders of the world's highest-cost producers. It is the marginal supplier, not the low-cost supplier, who will have to bear the brunt of future production cutbacks mandated by global efforts to mitigate climate change.

Hence, global compliance with climate mitigation targets poses a lethal outlook for the future of the oil sands, as it does to other high-cost supply sources such as Arctic oil, and even a good portion of US shale production. Not only will the reduction

in world oil demand needed to hold the increase in global temperature to less than 2°C obviate the need for any new pipelines, but much of Canada's existing pipeline capacity will become redundant in the face of what can only be a massive contraction in oil sands production over the next three decades.

Policy Recommendation 1: The National Energy Board should consider a rapidly decarbonizing global economy, consistent with the international commitments made at COP21 to limit future carbon emissions, as the base case when modelling future global oil demand and assessing the commercial viability of new pipelines and any required increase in oil sands production to fill them.

Policy Recommendation 2: In assessing new pipeline proposals, the National Energy Board should use WCS as the price benchmark when evaluating whether market conditions provide sufficient economic returns to justify any new oil sands projects and not price benchmarks for conventional oil such as West Texas Intermediate or Brent, which trade at a considerable premium to bitumen. Moreover, the National Energy Board should recognize that overseas markets that could be reached through new pipelines to tidewater (such as the approved twinning of the TransMountain pipeline, whose terminus is in Burnaby, British Columbia) will bring oil sands producers lower, not higher, prices for their bitumen than they already receive in the North American market.

Policy Recommendation 3: Pension plans need to stress test their long-term investments in the oil sands, along with those made in other fossil fuel industries and associated infrastructure, against expected declines in global consumption of these fuels and their expected impact on future fuel prices. With the oil and gas sector accounting for roughly one-fifth of the market capitalization of the TSX Composite, the sector can be expected to continue to exert a major drag on the overall performance of Canadian equity markets, resulting in lower rates of return from pension plans than would otherwise be the case. The federal and provincial governments should consider ordering pension plans that fall under their jurisdiction to divest from the sector in order to immunize their portfolios from the growing risk of further losses in the valuation of fossil fuel stocks, and, in particular, those connected with the high-cost oil sands.

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