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March 27, 2014

The Cross-Canada Impacts of Developing the Oil and Gas Industry of the Energy Sector

Briefing note to the House of Commons Standing Committee on Natural Resources

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Introduction

The Pembina Institute is Canada's sustainable energy think tank. We advance sustainable energy solutions through research, education, consulting and advocacy and have been contributing to the discussion on oilsands development for 20 years. While our focus has been on highlighting the environmental impacts of rapid oilsands expansion, we also have a long track record of raising economic and fiscal questions related to oilsands development.

Many of the short-term challenges facing oilsands development are well known, such as risks to oilsands industry growth stemming from market access limitations. There is also increasing awareness of, and growing public concern over, the environmental consequences of oilsands development that we are seeing even at today's production levels. This briefing note, however, will focus on the longer-term risks to oilsands development, and on the risk that over-reliance on oilsands production poses to Canadians.

In recent years, Canadians have heard again and again that the oilsands are the engine of Canada's economy. While we certainly don't dispute that there are short-term economic benefits from the oilsands, the full numbers tell us that the sector is not driving Canada's economy. Furthermore, policies that encourage more rapid oilsands development within Canada's economy carry risks. In particular, over-reliance on a growing oilsands sector would expose Canadians to the risk of developing a high-cost and high-carbon fossil fuel at a time when countries around the globe are beginning the transition to low-carbon alternatives.

Oil and gas industry effects nationwide

How important is the oilsands sector to Canada's GDP? While Statistics Canada does not track the oilsands specifically, GDP data shows the unconventional oil and gas sector, which consists primarily of oilsands, contributed 2.0 per cent to national GDP in 2013.[1] So the oilsands are important, but far less important than informal polling suggests Canadians believe.

Statistics Canada first started measuring unconventional oil and gas GDP in 2007. Since that time, the sector has grown at an annualized rate of 8.4 per cent per year.[2] This is rapid growth, but from a small enough base that it remains a long stretch to argue that the oilsands are driving the rest of Canada's economy.

Furthermore, while the oilsands have been rapidly growing in recent years, conventional oil and gas extraction has fallen. This has left the contribution of Canada's entire oil and gas sector to national GDP hovering around a relatively constant 6.0 per cent for the past decade.[3]

Looking at jobs, in 2012 the oilsands provided direct employment to 22,340 workers, representing only 0.2 per cent of Canada's full-time workforce.[4,5] Looking at the entire oil and gas sector (which includes

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[1] Pembina Institute calculation; data source: Statistics Canada, CANSIM Table 379-0031, "Gross domestic product (GDP) at basic prices, by North American Industry Classification System (NAICS)." http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=3790031

[2] Pembina Institute calculations; data source: Statistics Canada, CANSIM Table 379-0031

[3] Pembina Institute calculations; data source: Statistics Canada, CANSIM Table 379-0031

oilsands, conventional exploration and production, oil and gas services, and pipelines), direct employment increases to 195,200 workers in 2012, or 1.4% of Canada's full-time workforce.[6] For comparison, the retail sales sector provided 3.9% of Canada's full-time jobs in 2012 and the manufacturing sector provided 5.4%.[7]

Lastly, turning to federal government revenues, in 2012 the oil and gas sector paid $1.3 billion in federal corporate income taxes.[8] This represents 3.7% of total corporate income taxes collected across all industries, and 0.5% of total government revenues.[9,10] These are significant numbers, but perhaps less significant than industry advertising or government prioritization would lead one to believe.

It is also worth noting that the federal government continues to subsidize the oil and gas sector, primarily through tax expenditures that reduce corporate income taxes paid. Recent research by the International Institute for Sustainable Development and the OECD estimates Canada's federal subsidies to the fossil fuel sector at between $0.5 and $1.4 billion per year.[11,12] At the upper end of this estimate, foregone tax revenues would be roughly equal to the amount the federal government is currently collecting, thus significantly decreasing the benefit that Canadians receive from the development of oil and gas resources.

Diminished demand for oilsands in a low-carbon world

These numbers provide an overview of what the oil and gas sector is contributing to Canada's economy today. Arguably the more relevant question, though, is where the oil and gas sector is heading in the future — which will be in large part determined by what happens to the oilsands, the fastest-growing subsector in the oil and gas industry.

In 2011, the Canadian Energy Research Institute, or CERI, published a study looking at the impact of future oilsands development on Canada's economy. In CERI's most optimistic scenario, crude oil export capacity increases to just shy of 7 million barrels per day by 2035, creating capacity for close to 6 million

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[4] Petroleum Human Resources Council of Canada, *The decade ahead: Labour Market Outlook to 2022 for Canada's Oil & Gas Industry*, Petroleum Labour Market Information (2013), 23. http://www.petrohrsc.ca/media/85483/canada_labour_market_outlook_to_2022_report_may_2013.pdf

[5] Pembina Institute calculation based on a total number of full time jobs in Canada in 2012 of 14,212,900; data source: CANSIM Table 282-0010, "Labour force survey estimates (LFS), by National Occupational Classification for Statistics (NOC-S) and sex, annual." http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2820010

[6] Pembina Institute calculations; data source: Statistics Canada, CANSIM Table 282-0010

[7] Pembina Institute calculations; data source: Statistics Canada, CANSIM Table 282-0010

[8] Statistics Canada, CANSIM Table 282-0010, "Financial and taxation statistics for enterprises, by North American Industry Classification System (NAICS)." http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=1800003

[9] Pembina Institute calculations based on total corporate federal tax revenues in 2012 of $35.7 billion; data source: Statistics Canada, CANSIM Table 180-0003

[10] Pembina Institute calculations based on total federal government revenues in 2012-13 of $256.6 billion; data source: Finance Canada, *Annual Financial Report of the Government of Canada: Fiscal Year 2012–13* (2013), http://www.fin.gc.ca/afr-rfa/2013/report-rapport-eng.asp#a3

[11] Dave Sawyer and Seton Stiebert, *Fossil Fuels – At What Cost? Government support for upstream oil activities in three Canadian provinces: Alberta, Saskatchewan and Newfoundland and Labrador* (Global Subsidies Initiative of the International Institute for Sustainable Development, 2010), 34. http://www.iisd.org/gsi/sites/default/files/ffs_awc_3canprovinces.pdf

[12] OECD, *Inventory of estimated budgetary support and tax expenditures for fossil fuels* (2011), 82-84. http://www.oecd.org/site/tadffss/48805150.pdf

barrels per day of oilsands production.[13] In this scenario the oilsands are expected to generate $4.9 trillion in GDP contributions from 2010 to 2035.[14] Direct and indirect employment is expected to reach just over 1,000,000 jobs in 2035 and total federal and provincial-municipal tax receipts are expected to average nearly $30 billion per year.[15]

These appear to be attractive numbers, but we need to ask some fundamental questions about them. Is that scenario achievable? Is it environmentally responsible? And what risks would the pursuit of these benefits pose to Canadians and to the long-term competitiveness of Canada's economy?

Approved operating capacity in the oilsands is currently just over 2.5 million barrels per day.[16] Actual production numbers for 2013 have not yet been released but we expect they will show production exceeding 2.0 million barrels per day for the first time. The Canadian Association of Petroleum Producers (CAPP) is forecasting 5.2 million barrels per day of oilsands production by 2030.[17] The National Energy Board's (NEB's) 2013 outlook pegs oilsands production at 4.7 million barrels per day in 2030 and 5.0 million barrels per day in 2035.[18] This represents a minimum 150% increase in oilsands production by 2035, relative to where we are today.

Notably missing from these forecasts are strong data to support the implicit assumption that future demand for the oilsands will be high enough to support supply increases at that scale. The NEB simply states that it assumes that markets will continue to be able to absorb all available Canadian exports. CAPP cites growing demand in Asia as a future market for oilsands, but relies on forecast data that assumes current laws and regulations affecting the energy sector will remain unchanged over the forecast period.[19]

The reality is that laws and regulations in the energy sector are changing. Jurisdictions around the world are increasingly taking action to address climate change and the assumption that demand for a high-cost, high-carbon fuel like oilsands bitumen will remain high enough to realize industry's expansion plans is weak at best.

Along with virtually every country in the world, Canada has agreed to take action to limit the rise in global average temperatures to 2 degrees Celsius or less. The International Energy Agency, or IEA, models a scenario every year in its flagship World Energy Outlook publication that is designed to give the world a fair chance at staying below the 2°C threshold. Under this scenario — known as the "450 scenario" — global demand for oil peaks in 2020 and falls thereafter.[20] In 2010, the IEA published production estimates for the oilsands specifically under its 450 scenario, and found that while oilsands production continued to grow, it reached just 3.3 million barrels per day in 2035 — far below the 5.2

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[13] Afshin Honarvar, Dinara Millington, Jon Rozhon, Thorn Walden, and Carlos Murillo, *Economic Impacts of Staged Oil Sands Projects in Alberta (2010–2035)* (Canadian Energy Research Institute, 2011), xi. http://www.ceri.ca/images/stories/2011-08-24_CERI_Study_125_Section_1.pdf

[14] Honarvar et al, *Economic Impacts of Staged Oil Sands Projects in Alberta*, xiv

[15] Honarvar et al, *Economic Impacts of Staged Oil Sands Projects in Alberta*, 32-33

[16] Pembina Institute calculations; data source: Oilsands Review, "Oilsands Projects – Statistics," http://www.oilsandsreview.com/statistics/projects.asp (accessed February 14, 2014)

[17] Canadian Association of Petroleum Producers, *Crude Oil Forecast, Markets & Transportation* (2013), 3. http://www.capp.ca/forecast/Pages/default.aspx

[18] National Energy Board, *Canada's Energy Future 2013: Energy Supply and Demand Projections to 2035* (2013), Appendices: Crude Oil Production. http://www.neb-one.gc.ca/clf-nsi/rnrgynfmtn/nrgyrprt/nrgyftr/2013/ppndcs/pxlprdctn-eng.html

[19] Canadian Association of Petroleum Producers, *Crude Oil Forecast, Markets & Transportation,* 19

[20] It is noteworthy that demand for oil in the U.S. is falling already, partly thanks to tougher fuel efficiency vehicle standards.

million barrels per day that CAPP foresees by 2030 (five years earlier).[21] The IEA's finding is not the result of a specific government policy to limit oilsands growth, but a natural consequence of lower demand for oil, which in turns leads to lower oil prices and thus less production in the high-cost, high-carbon oilsands sector.

What does this mean? That projections of expected oilsands production are based on future market conditions that correspond to global failure to address climate change. In a world where we take action to tackle climate change, oilsands production grows far more slowly than industry currently predicts. The scenario of lower oil demand, and thus lower oil prices — coupled with fast-growing demand for clean energy — needs to be acknowledged by the Government of Canada in its policy choices and economic planning.

Choosing economic and climate policies that emphasize oilsands expansion in the face of uncertain long-term demand carries significant risks. One only needs to look towards Alberta — where the oil and gas sector comprised 24% of provincial GDP and resource royalties made up 19% of government revenues in 2013 — to see what's at stake.[22,23]

In 2013, the difference between projected and actual oil prices led to a $6.2 billion shortfall in the resource revenues the Government of Alberta expected to collect.[24] The result was an austerity budget, with significant cutbacks to post-secondary education and other services, despite record high levels of bitumen production. Despite its resource wealth, Alberta has the poorest track record among all provinces of meetings its budget targets, and has historically experienced the greatest volatility among all provinces in both government revenues and GDP.[25]

One hopes these experiences in Alberta will serve as a cautionary tale for the rest of Canada.

Conclusion

As it stands today, Canada's economy is arguably at a crossroads. The oilsands are a rapidly growing subsector of the economy, but they are not yet a driving force. Projected benefits from oilsands growth are contingent on there being a future market for the resource. In a world of increasing action to address climate change, this is far from certain.

While Canada runs the risk of locking itself into a high-carbon development path, it is not there yet. We need to think ahead and take advantage of the current window to shift our economic trajectory. By shifting our focus towards investing in sectors such as clean energy, we can build the kind of diversified energy economy we need to be competitive in a global low-carbon economy, and better positioned for future growth.

The following policies will help guard against the risks identified above, and will help ensure that future development is responsible and maximizes longer-term benefits for Canadians.

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[21] International Energy Agency, *World Energy Outlook 2010*, (2010), 450. http://www.worldenergyoutlook.org/publications/weo-2010/

[22] Pembina Institute calculations; data source: Statistics Canada, CANSIM Table 379-0025, "Gross domestic product (GDP) at basic prices, by North American Industry Classification System (NAICS) and province, annual." http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=3790025

[23] Pembina Institute calculations; data source: Government of Alberta, *Budget 2014 The Building Alberta Plan Fiscal Plan Tables* (2014), 138. http://www.finance.alberta.ca/publications/budget/budget2014/fiscal-plan-tables.pdf

[24] Government of Alberta. *Budget 2013: Responsible Change Overview* (2013), http://budget2013.alberta.ca/Fact-Card-Budget-2013-Overview.pdf

[25] Nathan Lemphers and Dan Woynillowicz, *In the Shadow of the Boom: How Oilsands Development is Reshaping Canada's Economy* (Pembina Institute, 2012), 55. http://www.pembina.org/pub/2345

1. Introduce regulations on greenhouse gas emissions from the oil and gas sector that are strong enough to help get Canada on track to achieve its national 2020 climate target. We share this target with the U.S. and while recently announced policies from President Obama could put the U.S. on track to meet its goal, Environment Canada's latest update shows Canada missing ours by 122 million tonnes — more than the current emissions of Canada's entire electricity sector. Knowing the "rules of the game" would allow companies to make investments, particularly in innovative technologies to reduce emissions, with greater confidence.
2. Provide greater support for energy efficiency and the clean energy sector. A reinvestment in energy efficiency retrofits for homes and commercial spaces, for example, is "win-win-win" — reducing Canada's emissions, creating jobs across the country, and saving money for Canadians. Similarly, programs such as production tax credits for clean energy encourage investment in a sector of growing global importance.
3. Complete the phase-out of all tax preferences and subsidies to the fossil fuel sector by 2020. Canada, along with all other G20 countries, made this commitment in 2009. This government has made real progress in reducing tax breaks to fossil fuel producers — most notably through the phase out of the Accelerated Capital Cost Allowance for oilsands which will end in 2015 — but Canada's two largest subsidies, the Canadian Development Expense and the Canadian Exploration Expense, still remain on the books, and the government has not announced any plans to reduce them. These subsidies are costing the government, and Canadians, hundreds of millions of dollars in foregone revenue every year and are providing the wrong incentives to industry to overinvest in high-carbon fossil fuels.