



CRA Insights: Energy

CRA Charles River
Associates

January 2019

Rethinking Canadian oil and gas investments amid shifting political and market realities

Background

Alberta Premier Rachel Notley's decision to cut production in response to plummeting oil prices is the latest indication of Canadian crude markets in crisis. While the move has brought some short-term price relief, it doesn't address the negative impact of inadequate infrastructure investment on the overall Canadian economy. An appropriate long-term measure should consider how best to utilize the country's important natural resources.

Further complicating matters, Canada has long relied on the US to consume or transport approximately 50% of its crude and natural gas (NG) production, but that market is no longer a given. Increased domestic energy production in the US has substantially lessened demand for imports. In addition, themes emerging from the US midterm elections suggest that headwinds associated with pipeline construction will get stiffer. Environmental policy issues are likely to be front and center in the run-up to the 2020 Presidential election.

Based on prevailing market conditions and expected future realities, investors in Canada's energy sector may want to look at options that rely less on export revenues. Broadening the traditional focus on upstream ventures to include investments further down the value chain makes sense in the current environment. We believe downstream ventures that consume and/or add value to raw materials represent promising development and investment opportunities.

Less demand, more red tape

Once a reliable customer for half of all Canadian natural gas and crude exports, the US in recent years has steadily increased domestic production. In 2017, the US became a net exporter of natural gas, exploiting low-cost shale exploration and access to world markets via distribution points in the Gulf of Mexico.¹

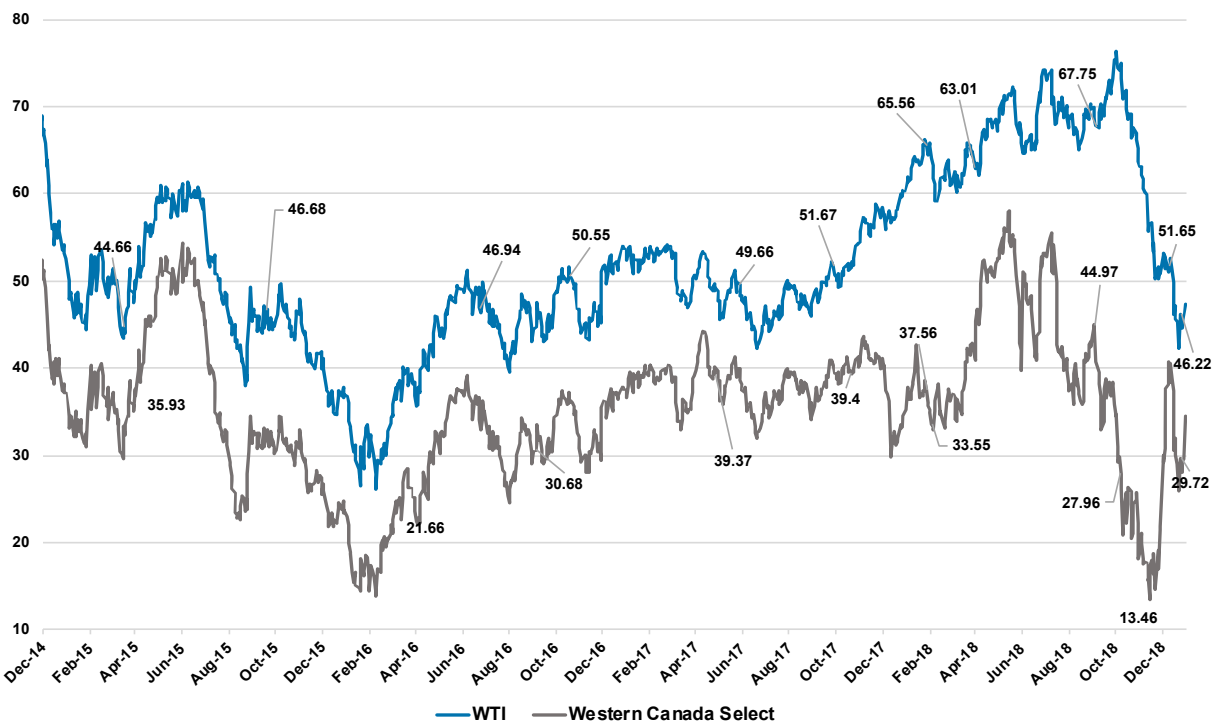
¹ US Energy Information Administration, "The United States exported more natural gas than it imported in 2017," March 19, 2018, available at <https://www.eia.gov/todayinenergy/detail.php?id=35392>.

US companies are also profiting from refinery operations that add value to imported raw crude, which is then exported at higher prices. In 2017 the US imported approximately 8 MMb/d of crude oil. In that same year, the US exported 5 MMb/d of higher-priced, refined petroleum products and only 1.1 MMb/d of crude oil.²

In contrast, since 2009 Canada’s net export position of natural gas and natural gas liquids (NGLs) has been flat to decreasing.³ With its reliance on pipelines that carry hydrocarbon products through the US to the Gulf, permitting delays—both inside Canada and in the US— have had a devastating impact on revenues. Today, Canada pays more for imported gas than it receives for its gas exports.⁴

The process for developing and permitting infrastructure to get crude production to domestic, neighboring, and international markets has proved to be challenging. Consultation requirements and regulatory risks have led to cost-prohibitive delays for investors in pipeline projects. This has constrained access to markets and resulted in severe commodity price discounting.

Figure 1. Price differentials are expanding beyond historic levels



Source: Bloomberg

Note: Alberta Premier announced mandated short-term oil production cuts on December 2, 2018, see <https://ca.reuters.com/article/idCAL1N1Y8012?rpc=401&>

² US Energy Information Administration, FAQs, available at <https://www.eia.gov/tools/faqs/faq.php?id=727&t=6>.

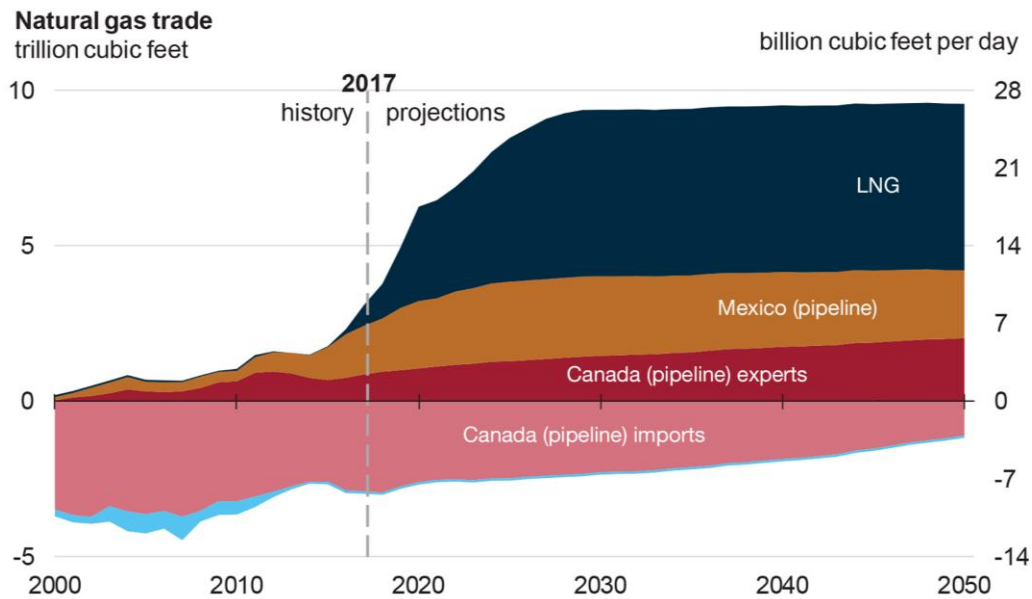
³ Canadian National Energy Board, Commodity Statistics, available at <https://apps.neb-one.gc.ca/CommodityStatistics/Statistics.aspx?language=english>; National Energy Board, National Export Volume, <https://apps.neb-one.gc.ca/CommodityStatistics/ExportVolumeSummary.aspx?commodityCode=PR>; see also Export Volume for propane, <https://apps.neb-one.gc.ca/CommodityStatistics/ExportVolumeSummary.aspx?commodityCode=PR>.

⁴ National Energy Board Import and Export Pricing Data.

Political shifts

While the current administration in Washington supports hydrocarbon-based energy, states control certain permitting of federally approved infrastructure projects. In addition, states have considerable influence on end-use markets. With midterm election gains for Democrats on the state level, it is likely that existing obstacles to pipeline construction may intensify and increase the dependence on exports. While the US is well positioned for increasing exports, Canada may not be. In Michigan, for example, Governor Gretchen Whitmer ran on a platform that included a vow to shut down Enbridge Energy's aging Line 5 oil and NGL pipeline—the main conduit for transporting Canadian crude and NGLs to the US Midwest and Ontario.

Figure 2. Forecast of US natural gas balances

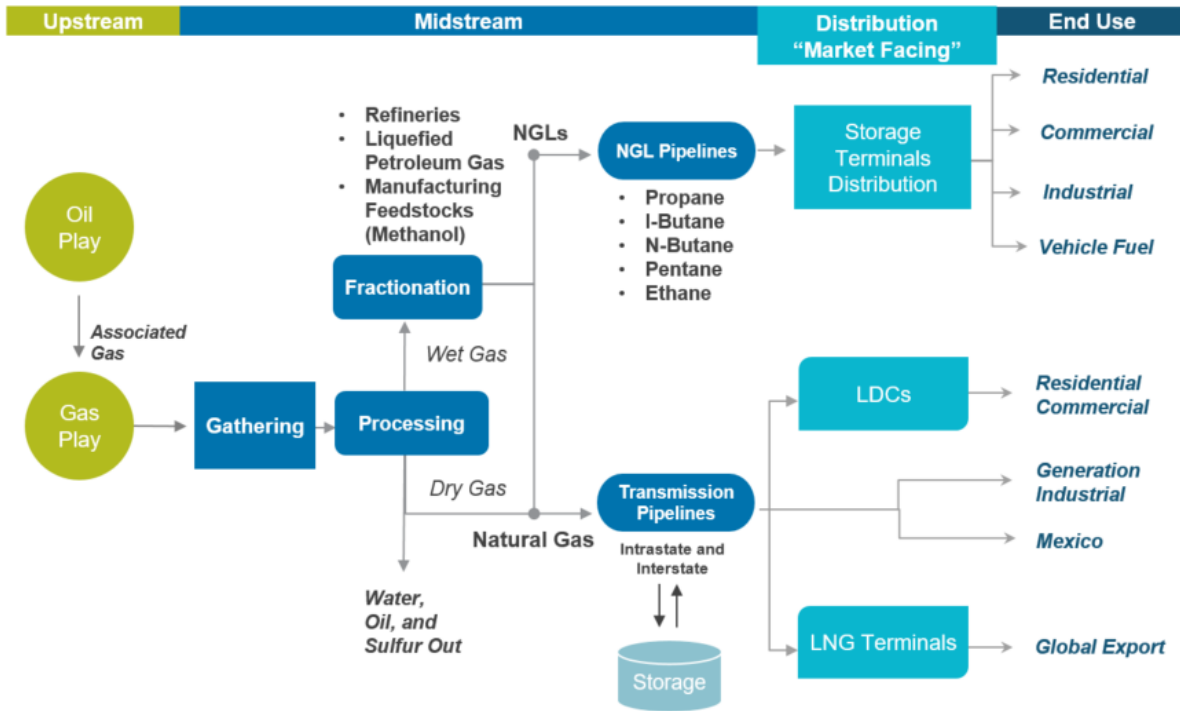


Source: US Energy Information Administration, Annual Energy Outlook 2018

Value-added investments

With fundamental aspects of Canada's vital crude and natural gas industry in flux, stakeholders may need to recognize that business-as-usual infrastructure investments are no longer ideal. Low prices, shrinking US demand, and stalled pipeline projects make a compelling case for investing in value-added domestic industries that move end use closer to production, thus lessening reliance on exports. In the US natural gas industry there has been a rise in the number of processing plants using hydrocarbons as feedstocks for refined products such as methanol, gasoline, or polypropylene. This represents just one example of an innovative and evolving midstream investment trend. Figure 3 provides an illustration of the natural gas value chain.

Figure 3. The natural gas value chain



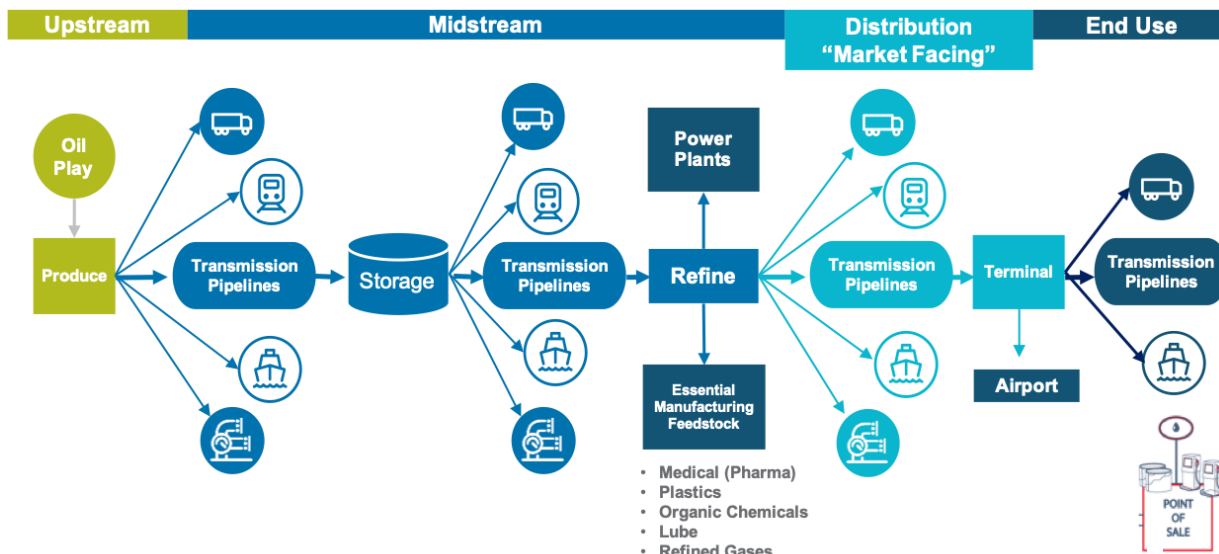
Source: CRA analysis

There are already many examples of investment directed towards the natural gas midstream and downstream in the US. In addition, there are plans to invest \$83 billion in a proposed Appalachian storage hub in West Virginia within the Marcellus Shale Formation.⁵ In Canada, Nauticol Energy recently announced its intention to build a \$2 billion methanol processing plant near drilling sites in Alberta.⁶ The low oil price environment could create similar mid-to-downstream investment opportunities in Canada's crude oil value chain which is depicted in Figure 4. Trending from raw material to value-added industries expands the investment set further.

⁵ Brittany Patterson, "Appalachian Natural Gas Storage Hub Developers Bring in Outside Firm," WV Public Broadcasting, August 31, 2018.

⁶ Nauticol Energy, "Methanol facility proposed for Grande Prairie," news release, October 9, 2018, https://www.nauticolenergy.com/pdfs/news/News_Release-Oct_9_2018.pdf. Accessed January 4, 2019.

Figure 4. The oil value chain



Source: CRA analysis

Over the past decade, the US has executed \$185 billion worth of investments in its downstream petrochemicals industry. By comparison, Alberta has invested only \$4 billion or just 2% of the North American total.⁷

Conclusions

Prevailing US and Canadian economic and political realities suggest that Canada will continue to struggle to get its naturally resourced oil and gas to international markets. The recent progress of the LNG Canada project is a step in the right direction, but a number of contentious issues remain unresolved. The industry is likely to feel the pain of deeply discounted natural resources for the foreseeable future.

While low commodity prices on either side of the border typically have a negative impact on the value of upstream investments, low prices could create a favorable environment for new investments in midstream and downstream Canadian-based energy industries.

Increasing Canada's domestic oil and gas consumption—by broadening downstream applications and/or moving consumption closer to the source in the value chain—is a promising investment thesis that could also help Canada better use its resources and receive market-based prices. Power plants, refineries, and ventures that use hydrocarbons as feedstocks for value-added products are examples of this broadening investment landscape.

⁷ Energy Diversification Advisory Committee (EDAC), "Diversification, Not Decline: Adapting to the new energy reality," 2018, available at <https://globalnghub.com/wp-content/uploads/2018/10/goa-00905-edac-book-final-web.pdf>.

About CRA's Energy Practice

Charles River Associates is a leading global consulting firm that offers strategic, economic, and financial expertise to major corporations and other businesses around the world. CRA's Energy Practice provides services to a wide range of industry clients, including utilities, ISOs, RTOs, large customers, and investors. The Energy Practice has offices in Boston, New York City, Washington, DC, Toronto, and London. Learn more at www.crai.com/energy.

Contact

Herb Rakebrand

Principal

Boston

+1-617-425-3758

hrakebrand@crai.com

Juliana Bruno

Consulting Associate

Toronto

+1-416-413-4098

jbruno@crai.com



The conclusions set forth herein are based on independent research and publicly available material. The views expressed herein do not purport to reflect or represent the views of Charles River Associates or any of the organizations with which the author is affiliated. The author and Charles River Associates accept no duty of care or liability of any kind whatsoever to any party, and no responsibility for damages, if any, suffered by any party as a result of decisions made, or not made, or actions taken, or not taken, based on this paper. If you have questions or require further information regarding this issue of *CRA Insights: Energy*, please contact the contributor or editor at Charles River Associates. This material may be considered advertising. Detailed information about Charles River Associates, a registered trade name of CRA International, Inc., is available at www.crai.com.

Copyright 2019 Charles River Associates