
Canadian Pipeline Spat Threatens Pacific Northwest

Alberta sanctions could cut 30% of Washington state's crude.

Morningstar Commodities Research

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Sandy Fielden

Director, Oil and Products Research

+1 512 431-8044

sandy.fielden@morningstar.com

Data Sources for This Publication

U.S. Energy Information Administration

CME Group

Washington State Department of Ecology

To discover more about the data sources

used, click here.

Escalating Dispute

An ongoing Canadian political dispute over approval of an oil pipeline being built from Edmonton, Alberta, to Vancouver, British Columbia, by Kinder Morgan has escalated to legislative action by Alberta threatening to disrupt oil movements between the two western provinces. The dispute concerns Alberta's belief that British Columbia is dragging its feet over approval of an expansion to Kinder Morgan's Trans Mountain Express pipeline that would triple its capacity to 890 thousand barrels/day, or mb/d. Kinder Morgan has suspended work on the project - needed to relieve crude takeaway congestion out of Alberta - until politicians agree to a path forward. The trouble is that as much as 60% of the 300 mb/d traveling on the existing Kinder Morgan Trans Mountain Express crude pipeline from Edmonton to Vancouver is diverted via a lateral in Sumas, British Columbia, to feed U.S. refineries in Washington state. These refineries rely on that Canadian crude to meet about 30% of their feedstock needs. If Alberta proceeds with a license scheme to prevent shipments into B.C., then five Pacific Northwest refineries with 634 mb/d throughput capacity will be left scrambling for crude supplies. This note looks at current regional supply and discusses alternative sources of crude if the Trans Mountain pipeline shuts down.

Pacific Northwest Refineries Vulnerable

We provided a comprehensive description of Washington state's crude supply position in our January 2017 Outlook "[Pacific Northwest Refineries: Cheap Crude and a Captive Market](#)." The five Washington refineries have throughput capacity of 634 mb/d and receive all their crude from outside the state. These refineries have experienced strong margins in the past few years, first because of their access to discounted Canadian crude as well as Bakken Shale shipped by rail from North Dakota and second because the Pacific Northwest is isolated from other markets and refinery output is closely balanced with demand, meaning fuel prices are typically higher than in more competitive markets. That dependence on outside crude and relative isolation from refined product supplies from the rest of the U.S. makes Washington state refineries and Pacific Northwest consumers particularly vulnerable to refinery interruptions.

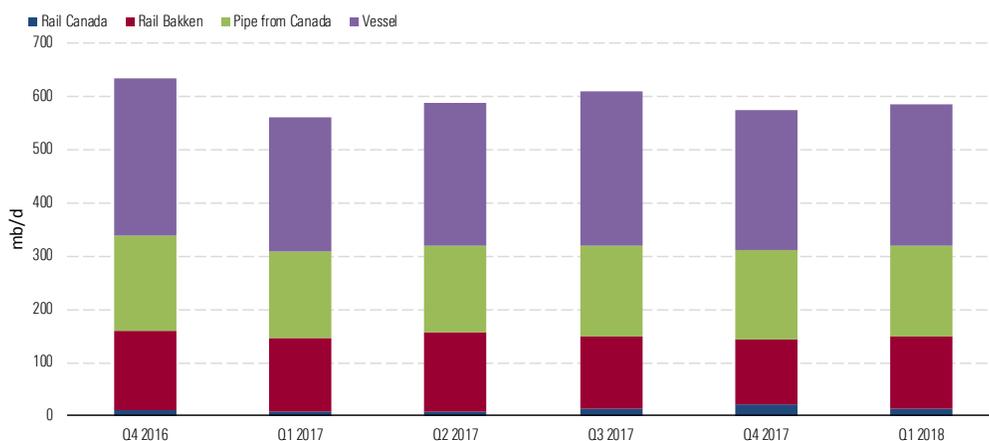
Imports From Canada

According to the Energy Information Administration, the U.S. imports more Canadian crude than from any other country (about 3.4 million barrels/day, or mmb/d, on average during 2017). Right now those imports, particularly of heavy oil sands crude from western Canada, are attractive to U.S. refiners because a lack of pipeline capacity across the U.S. border has made them cheaper than U.S. grades (see our January 2018 note "[Can Rail Handle Canadian Crude?](#)"). Canadian producers have had to accept

discounts averaging \$15.68/barrel over the past year (April 1, 2017, to March 31, 2018) for benchmark Western Canadian Select versus U.S. West Texas Intermediate crude at Cushing, Oklahoma.

Most Canadian imports enter the U.S. through the Midwest, feeding refineries in PADD 2 and increasingly flowing as far as the Gulf Coast. A smaller volume of crude (226 mb/d on average in 2017, according to the EIA) is exported to the West Coast (PADD 5) from Canada, with most being shipped on the Puget Sound lateral of the Kinder Morgan Trans Mountain pipeline. Tracking data published by the Washington State Department of Ecology indicates that crude pipeline flows from Canada represented about 30% of incoming crude into Washington state during 2017, or an average of 166 mb/d (green bars in Exhibit 1).

Exhibit 1 Crude Shipments to Washington State



Source: Washington State Department of Ecology, Morningstar

Waterborne Supply

The largest share of inbound shipments into Washington state is the 46% or so arriving by vessel (purple bars in Exhibit 1). That volume mostly consists of Alaska North Slope, or ANS, crude shipped from Valdez, Alaska, by tanker. There is also a limited volume of Canadian crude shipped from the Westridge marine terminal in Vancouver, British Columbia, to Washington state refineries that also originates from the Trans Mountain pipeline. In addition, Washington state refineries import small volumes of crude that are not from Alaska or Canada. These imports are typically from Argentina, Brazil, Russia, or Saudi Arabia, and, according to the EIA, represented only an average 5% of total imports into Washington state, or 12 mb/d during 2016, increasing to an average 34 mb/d in 2017.

Crude by Rail

Aside from vessel imports and Alaskan crude, Washington state refineries have increased their processing of domestic shale crude in the past several years (see our October 2017 note "[West Coast Export Boom: Prospects for ANS and Bakken](#)"). Shale crude is delivered to the West Coast by rail from North Dakota, and, according to Washington's Department of Ecology represented about 25% of the

state's supply, or 136 mb/d, during 2017 (red bars in Exhibit 1). Heavy crude shipments by rail from Canada have also increased to an average 13 mb/d in 2017 in response to tightening pipeline capacity across the border (blue bars).

Impact of Sanctions

The Alberta Legislature passed a first reading of the Preserving Canada's Economic Prosperity Act on April 16, 2018, and adjacent province Saskatchewan passed a similar bill on April 23. The bills give these provinces the power to require export licenses to ship crude, natural gas, or refined products across their borders, with the implied threat that they would use this power if British Columbia fails to expedite approval of new pipelines like the Trans Mountain expansion. The regulation could easily restrict crude exports to B.C. if, for example, Alberta chose to deny licenses to existing Trans Mountain shippers. However, it would be harder, if not impossible, for Alberta to control what happens to the crude once in British Columbia. In that case, British Columbia might decide that crude bound for the U.S. on the Puget Sound pipeline was instead required to feed its refinery in Burnaby, B.C., that supplies refined product to the Vancouver region. Or Alberta may refuse to ship any crude to British Columbia. Either way, Washington state refineries will be seriously affected if the dispute escalates.

Alternative Supply?

If Washington state crude from Canada (166 mb/d) is threatened, alternative supplies could be hard to come by in the short term. The obvious solution would be to tap existing sources—meaning ANS, shale from North Dakota, or imports.

ANS would not be a simple choice. Alaska's crude production has been declining steadily since the late 1980s. Production has recovered this year from lows around 423 mb/d in the summer of 2017 to over 500 mb/d this year. However, refineries in Alaska, Washington state, California, and Hawaii consume all of this crude. Providing more ANS cargoes to Washington state refineries would simply deprive California plants of the same quantity and shift the shortage south. In any case, in part because of tight supplies, ANS is more expensive than typical heavy Canadian crude (see Exhibit 2).

Getting more Bakken shale crude to Washington state refineries is not straightforward either. Although crude output in North Dakota is recovering from its slide after the oil price crash in 2015, most incremental production is now shipped by pipeline to Cushing or to the Gulf Coast via the Dakota Access pipeline that came on line in June 2017. Washington state refineries have continued to ship about 136 mb/d of shale crude from North Dakota by rail, but they would need to pay a premium to attract higher volumes away from pipeline alternatives. There are also regulations in Washington that limit crude-by-rail shipments and unloading at refinery terminals.

The best replacement bet for embargoed Canadian supplies would be other imports, likely from markets the Washington refineries already use occasionally: Latin America, Russia, and the Middle East. Supplies from the Middle East and Russia are currently constrained by the OPEC producers' agreement (also adhered to by Russia), so refiners would have to pay a premium to tempt these barrels away from existing buyers. The same is true for Latin American crudes—that are in short supply these days

because Venezuela's production has collapsed in the past year, leaving a large supply gap. Exhibit 2 shows crude prices over the past year for ANS, Mexico's heavy Maya crude, and Canadian WCS. Both ANS and Maya are more expensive than WCS today, and we would expect those premiums to increase rapidly in the case of an Alberta-induced embargo of Canadian crude to the West Coast.

Exhibit 2 Crude Prices



Source: CME Group, Morningstar

Consequences

Aside from higher crude prices that translate directly into higher product prices in the Pacific Northwest, we believe that any embargo of Canadian supplies would leave Washington state refiners short of crude as they scramble to find alternative suppliers. That means reduced crude throughput and lower refined product output. If that happens, the region is not well-equipped with storage or nearby alternative supplies and may have to rely on imports. The closest refineries are in California, but these plants are configured to produce refined products to the Golden State's stringent Air Resource Board specifications that don't match those of other states. Because there are very few product pipelines across the Rockies, supplies from the PADD 4 Mountain region or the Midwest would have to be trucked in over long distances.

While most observers assume that the Canadian federal government will knock heads together between Alberta and British Columbia to resolve the pipeline dispute, there is a chance it could escalate. Such an escalation could curtail oil supplies to British Columbia, threatening the whole Pacific Northwest. The resulting crude and refined product shortages would lead to hefty price hikes at best and the specter of gas station queues at worst. ■■■

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For More Information

+1 800 546-9646 North America

+44 20 3194 1455 Europe

commoditydata-sales@morningstar.com



22 West Washington Street
Chicago, IL 60602 USA

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