CURRENT ANALYSIS
May 9, 2018

# Lost in Transportation:

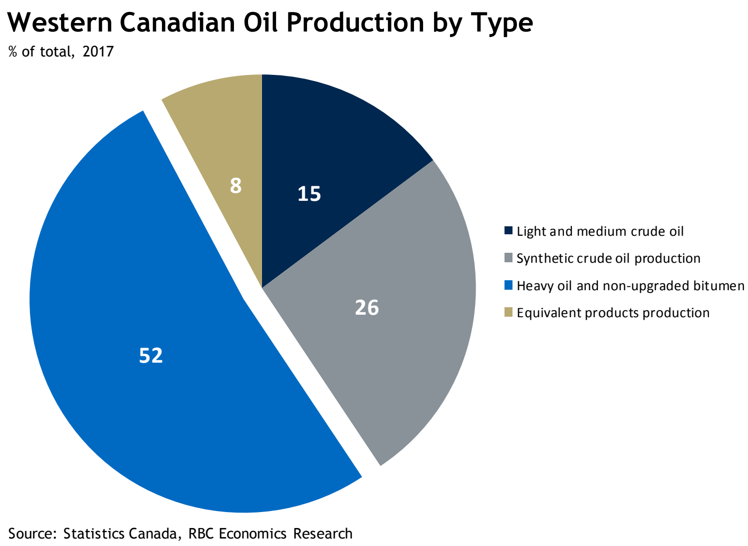
## Putting the discount on Canadian heavy oil in context

The case for expanding Western Canadian oil-pipeline capacity took on new urgency over the winter as rising production came up against disruptions to existing transportation infrastructure. That sent the closely watched Western Canadian Select heavy-oil price benchmark sharply lower relative to global prices. Although the spread between WCS and West Texas Intermediate—the U.S. benchmark—has since narrowed, the underlying problem facing the Western Canadian oil patch isn't going away. While Canadian oil production has been expanding for years, pipeline infrastructure has not, and now oil exports are bumping up against pipeline capacity constraints.

Political battles are being waged over the pipeline projects that could ease the bottleneck. While the political costs may be predictable, it's a challenge to quantify the near-term economic cost of Canada's oil pipeline shortage. Here, we attempt to cut through the rhetoric to illustrate the implications for the Canadian economy of discounted Canadian oil prices. The near-term impact to the Canadian economy is less than some may believe. And even in the longer-run, there is room for rail capacity to fill the gap left by years of failure to build pipelines. The longer-term damage to the Canadian economy lies in the accumulation of lost potential revenue from a Canadian oil patch that can't easily access world markets.

**Not all oils are created equal**

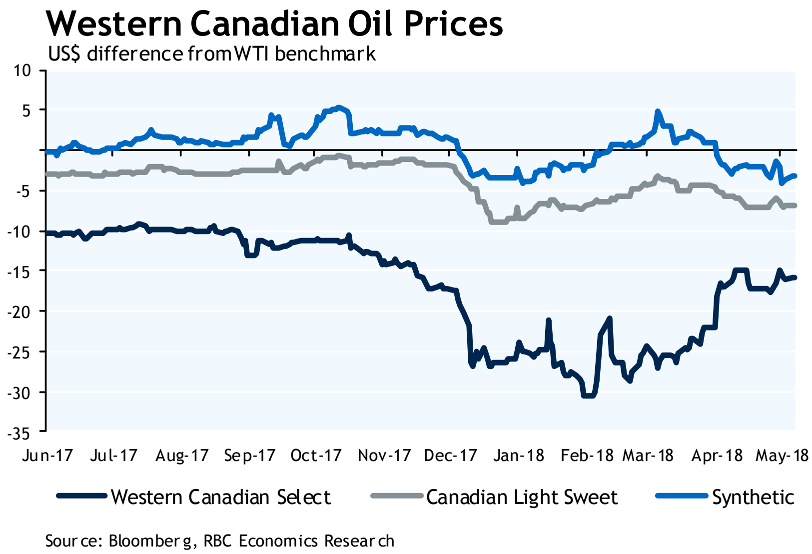
Although the heavily discounted Western Canadian heavy crude gets a lot of attention, about half of Western Canada's oil production isn't selling at a large discount. That output—comprising light and synthetic oil blends—has been less impacted by transportation disruptions.




**Nathan Janzen**
Senior Economist | 416-974-0579 | nathan.janzen@rbc.com

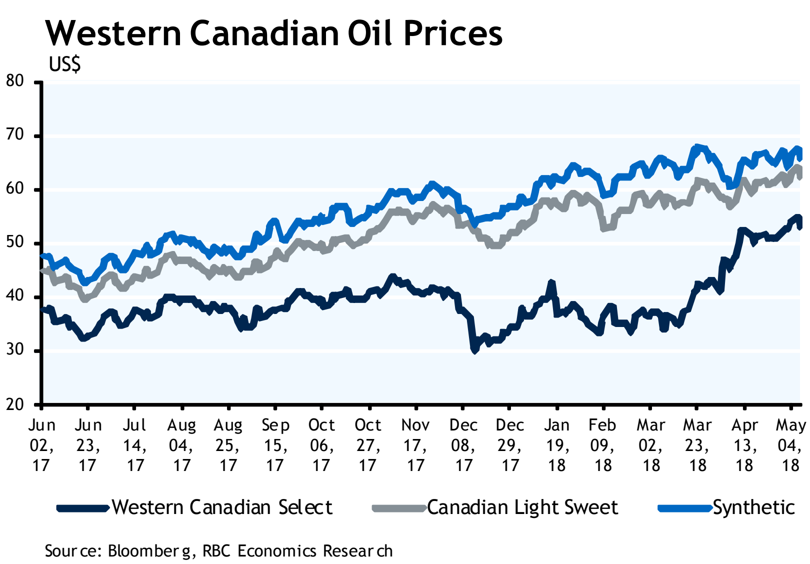
**The WCS-WTI spread has narrowed since February**

At around US$16/barrel over the last week, it's still wider than the US$14.50 that RBC Capital Markets' energy research team estimates as its "equilibrium" level, but not by much. Canadian heavy oil always trades at a discount to light oil because it is more difficult to refine. Canadian light/synthetic price spreads never did widen as much as the WCS spread and are still narrower.



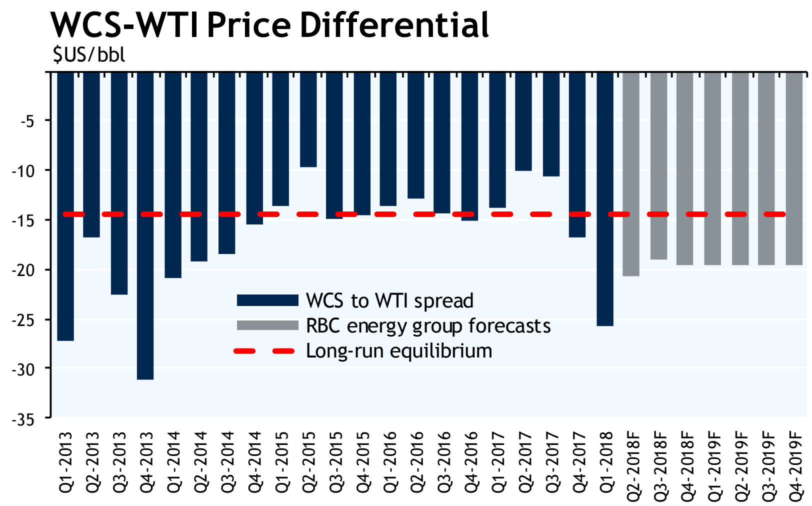

**A rising tide floats all boats**

Rising global oil prices are pulling Canadian oil prices higher. So far this year, WTI and Brent have averaged about 25% above 2017 averages. Western Canadian light and synthetic oil blends are up around 20%. Even the WCS price is up almost 8% on average year-to-date in level terms.



**One producer's discount isn't the same as another's**

RBC's Global Energy Research team expects the WCS-WTI differential to average about US$21 a barrel in 2018, about US$6.50 wider than the equilibrium level for the year on average. If all Canada's ~2 1/4 million barrels a day of heavy oil production were selling at WCS prices, the larger-than-normal discount would add up to almost C$7 billion in 2018, or roughly 0.3% of Canadian GDP. That calculation overstates the true cost, though, because not all heavy oil sells for the same discount. Some producers have dedicated transportation capacity—and so are able to realize prices closer to global benchmarks. Some also control downstream refinery operations and those refining activities benefit from lower oil prices via lower input costs. It's hard to say exactly how much offset comes from those factors but it is probably substantial.

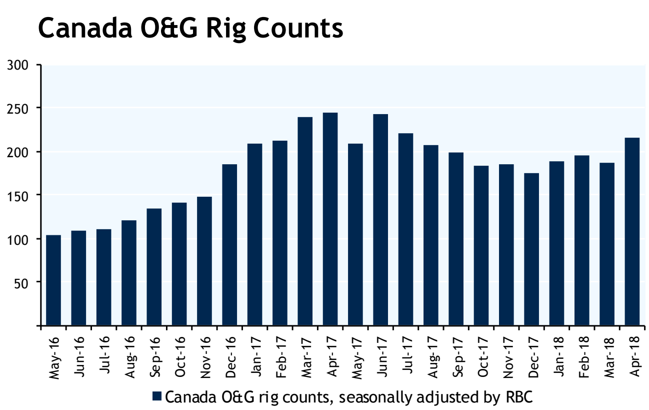



Source: Bloomberg, RBC Global Energy Research Forecasts

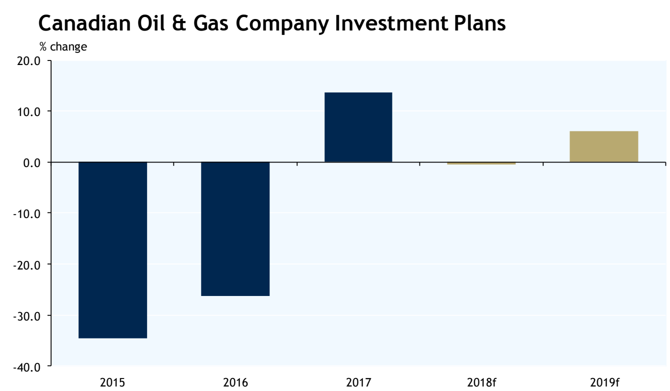
**There's no sign of another imminent decline in oil-sector investment spending**

To be sure, oil investment is still down sharply from levels prior to the 2015/16 global oil price collapse. The Canadian heavy-oil price discount and uncertainty about the prospects for long-run pipeline capacity expansion don't help. But there is also not a lot of evidence that another dramatic leg lower in investment spending is in the cards, at least not in the near term. Oil prices are still up this year. That helps to explain why drilling activity seems to have held up relatively well. Companies also have not signaled plans to cut back significantly on investment over the next couple of years. Our tracking of company and analyst investment plans suggests oil and gas investment will still be flat to up slightly in 2018 and 2019.

.




Source: Baker Hughes, RBC Economics Research

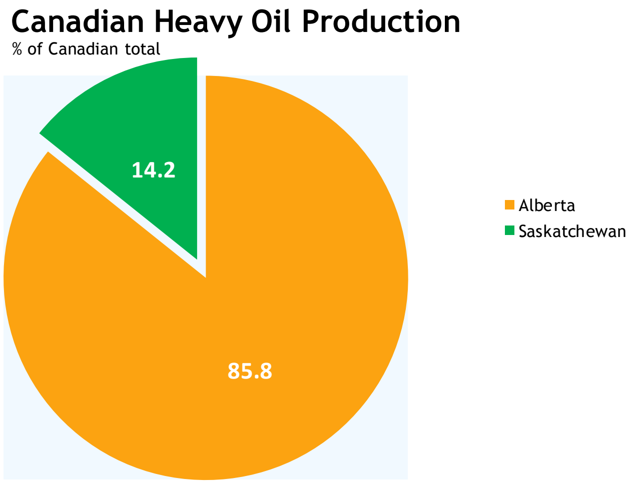



Source: Bloomberg, RBC Economics Research

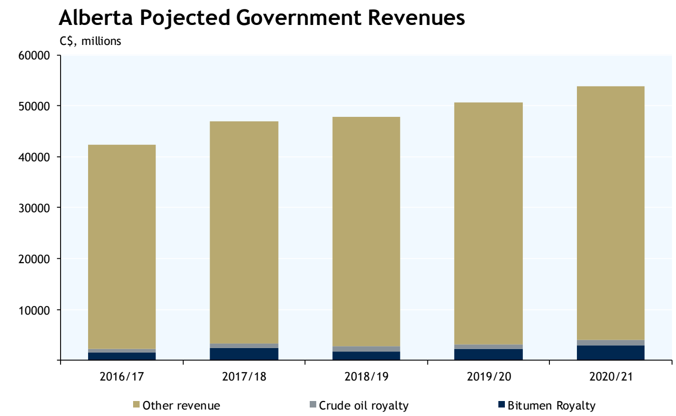
*data is RBC's tracking of current analyst/company projections for o&g company investment

**Alberta government revenues still rising—even with lower bitumen royalties**

Lower heavy oil prices mean lower oil-royalty revenue for governments, mainly in Alberta which accounts for most of Canada's heavy-oil output. Alberta bitumen royalties are expected to be down almost $573 million this year compared to last. Higher light oil royalties are expected to provide some offset, though. Total Alberta government revenues are still projected to rise about 2% in the current fiscal year.




Source: Statistics Canada, RBC Economics Research

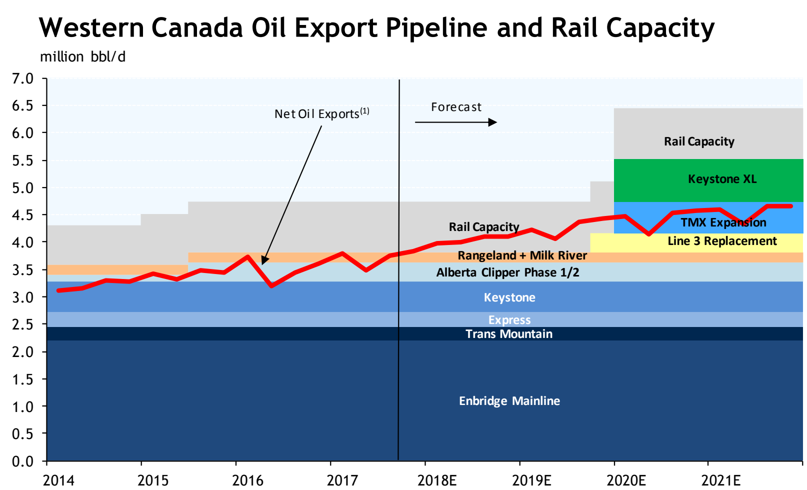



Source: Alberta 2018 Budget, RBC Economics Research

**Oil sands production is a long game—and even small costs can add up in the long-run**

Ultimately, the persistent discount for Canadian oil means that oil revenue is being left on the table. After years of investment in production, net oil exports from Western Canada (production less domestic western Canadian refining capacity) have now bumped up against existing pipeline capacity. There is substantial rail-loading capacity that can fill the gap, but crude-by-rail costs anywhere between US$3 and US$6 more per barrel than transporting by pipeline, according to RBC Capital Markets. That's a big reason why Western Canadian heavy oil prices are expected to continue to trade at larger-than-normal discount to WTI prices until more pipeline capacity is brought online.

In any one year, the economic cost might not be that large. Even if all heavy oil were selling at the WCS-WTI discount—which it isn't, as we've discussed— the 'cost' of a sustained US$5/barrel larger-than-normal WCS-WTI price gap would be about C$4 billion to C$5 billion a year. In context, that's just 0.2% of the Canadian GDP. But it's also still foregone revenue that could be plowed back into the Canadian economy every year. Over time, that cost can still add up.




Source: RBC Global Energy Research, Haver