



Canadian Gasoline and Diesel Prices Reached Their Lowest Level in 2018, Following Lower Crude Prices.

After spiking early in Q4, global crude prices fell over the remainder of the quarter pushing down both wholesale gasoline and diesel prices.

Global crude prices moved higher early in the quarter over concerns of tighter supply, but this was reversed toward the latter part the quarter over concerns of a possible global economic downturn. In addition, the announcement of waivers for U.S. sanctions on Iranian oil exports and record levels of global crude production contributed to worries of a possible oil glut. Subsequently, global crude prices dropped the remainder of the quarter with Canadian wholesale and retail fuel prices reaching their lowest levels in 2018.

Canadian gasoline prices were pressured lower in response to high refinery production coupled with softer domestic demand. Consequently, Canadian gasoline refining margins shrank to a 22-month low in December as refined gasoline prices dropped more than Canadian crude prices.

In contrast to gasoline, North American distillate supplies tightened over the previous quarter, particularly in the eastern parts of North America. Strong global demand for diesel fuel to power industrial and economic activity coupled with a North American replenishment of distillate inventories have pushed diesel refining margins higher. Canadian diesel refining margins reached an all-time high in November, and were well above gasoline refining margins, which kept diesel prices from falling further this past quarter. **Figures 1 & 2** show the historical movement of retail gasoline and diesel prices in Canada along with their component prices.

Global supply concerns led to a period of volatility for crude prices in Q4. After peaking at 85.87 \$US/BBL in early October, Brent, a global crude benchmark, fell the remainder of the quarter to 52.99 \$US/BBL, 36 percent lower than where it ended the previous quarter. The key North American benchmark, WTI, saw similar volatility this past quarter after peaking in early October at 76.41 \$US/BBL, ending the quarter at 45.41 \$US/BBL, 38 percent below the previous quarter. Brent's premium to WTI expanded to as high as 11.16 \$US/BBL in mid-October, following turmoil in U.S. equity markets, and then ended the quarter at 7.58 \$US/BBL, roughly 2 \$US/BBL higher than the end of the previous quarter.

The Canadian crude benchmark for heavy oil, Western Canadian Select (WCS), experienced extreme price volatility this past quarter, but the factors affecting its movement differed from most other global benchmarks. WCS fell 17 percent from the end of the previous quarter, but experienced large intra-period price fluctuations. By mid-November WCS had fallen 61 percent from the end of September, due to pipeline

Figure 1: Canadian Average Regular Gasoline and Component Prices

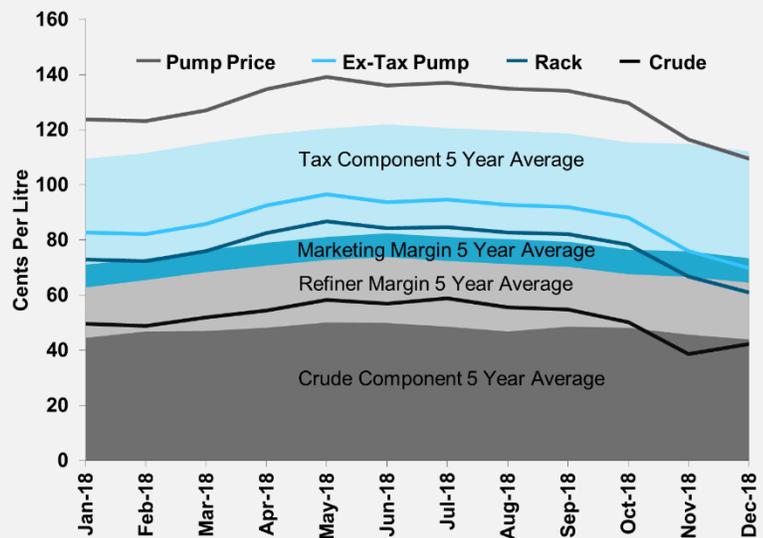
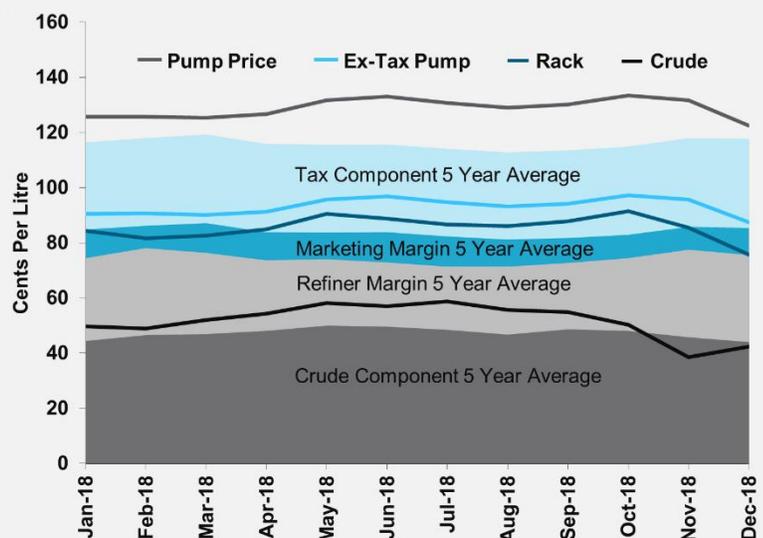


Figure 2: Canadian Average Diesel and Component Prices

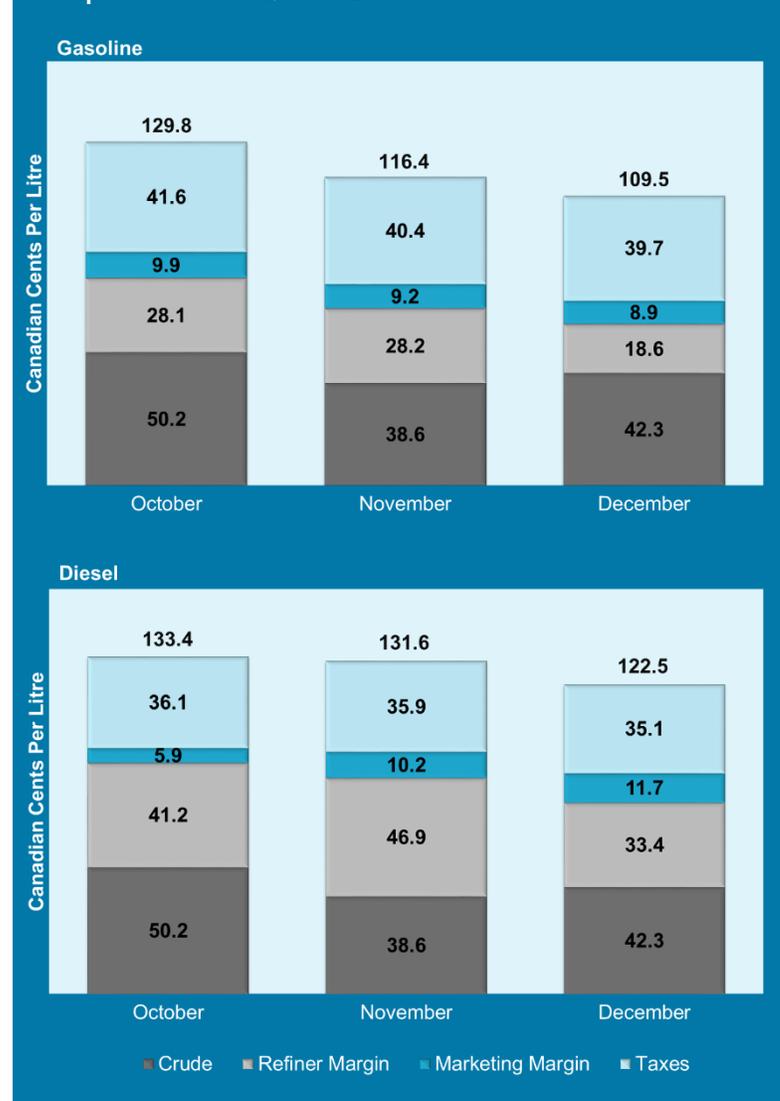


bottlenecks and reduced demand driven by refinery maintenance issues in the U.S Midwest. The WCS price differential to WTI reached 48.56 \$US/BBL; however, the differential closed to just 15.70 \$US/BBL by the end of the quarter as Midwest U.S. refineries came back online and the Alberta government announced mandated production targets set to start in 2019.

Gasoline and Diesel Market Overview

Retail gasoline prices fell to their lowest level in 18 months, as demand for gasoline flattened and inventories remained above historical averages. Wholesale gasoline prices fell more than crude prices, shrinking the Canadian gasoline refining margin to 18.6 cents per litre in December, well below the 5-year average for that month.

Figure 3: Canadian Average Gasoline and Diesel Price Components for 4th Quarter 2018



A natural gas pipeline explosion in Prince George in mid-October forced a number of Washington State refineries offline, driving up gasoline prices on the west coast of Canada. Similarly, a two-day shutdown of Washington's Olympic Pipeline in mid-December caused a temporary spike in wholesale gasoline prices on the west coast.

The North American distillate market settled in December as Canadian refining margins returned to levels experienced in December 2017 from the record highs in November. As U.S. Midwest refineries came back online, Central and Western wholesale prices and refining margins fell more than Eastern prices and margins.

There was volatility and regional disparities in diesel refining margins this past quarter, as Central and Western refining margins expanded mid-quarter following lower crude input costs and higher wholesale prices, but ended the quarter at roughly the same level after Western Canadian crude prices rebounded. In contrast, eastern Canadian diesel refining margins expanded over the quarter as crude prices in the region fell more so than diesel prices in the region. (Figure 3)

Market Outlook for the Next Quarter

Barring any significant changes to crude prices, gasoline prices are likely to rise towards the end of the first quarter as fuel producers begin their spring refinery maintenance period and begin to build inventories in anticipation of higher summer demand. Typically, wholesale gasoline prices move higher in the early spring and into the summer driving season. Diesel price seasonality is heavily tied to heating fuel use and is likely to keep diesel prices above gasoline until diesel prices typically

begin to soften in the spring.

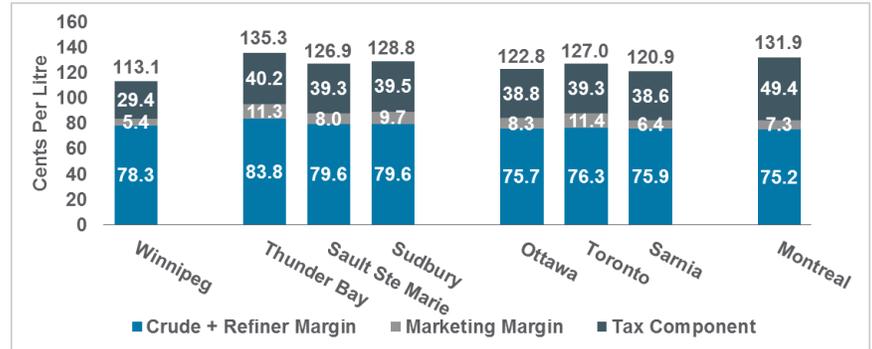
Two provinces (PEI and NL) lowered gasoline and diesel taxes at the start of 2019. However, any savings at the pump will be offset as the Canadian carbon pricing backstop comes into effect April 1st in those provinces without a carbon pricing program (PEI, NL, SK, MB, ON, NB). The federal carbon pricing backstop will add between four and six cents per litre to gasoline and diesel prices in these provinces.

Northern Ontario Pump Prices Explained

Gasoline prices in Canada can vary from one province to the next, from one city to the next, and even within the same city or along the same street. Recently, there has been some interest in examining the relative disparity of gas prices between Northern and Southern Ontario. Greg Rickford, a northern Ontario MPP and current Minister of Energy, Mines, Northern Development and Indigenous Affairs called for the Competition Bureau to probe Northern Ontario fuel prices. This next section will provide a general explanation of why these differences can exist and why at times the prices in these two regions seem to move independently of one another.

Pump prices are made up of four main components: crude costs, refining costs, marketing costs, and taxes. These components can vary between provinces, but can also vary within a province, as shown in **Figure 4**. A comparison of average 2018 gasoline prices for select cities in Canada shows that Northern Ontario prices were higher than those in Southern Ontario, and differences are exhibited in each of the price components listed.

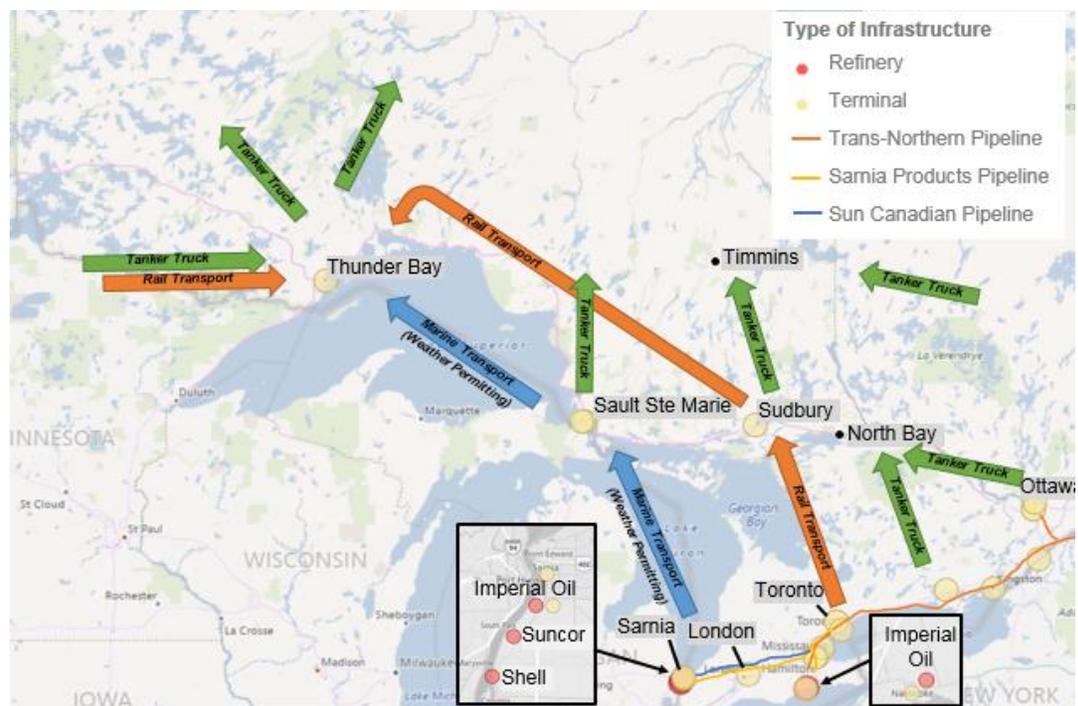
Figure 4: 2018 Gasoline Pump Price Components, Select Cities



Crude oil is a commodity which is traded in the global marketplace and its fluctuations are largely a result of global supply and demand conditions. Refining margins are determined by the difference between the cost of crude oil input into a refinery and the price of the wholesale refined product sold by the refiner to a fuel marketer/retail site. Refining margins for gasoline tend to fluctuate on a regular seasonal basis, rising in response to strong summer demand and falling in winter during times of lower demand. Refining margins can also vary in response to regional inventory levels and supply dynamics, supply logistics (competitive markets are formed where they are connected by pipelines, rail, and marine transport), and the costs associated with moving refined products from the point of production (the refinery) to the point of consumption (the retail fuel site). **Figure 4** shows that wholesale prices in Ontario were not uniform in 2018; in Northern Ontario the wholesale price of gasoline averaged roughly 81 cents per litre, similar to Western Canadian markets like Winnipeg, while wholesale prices in Southern Ontario averaged roughly 76 cents per litre.

To understand why Northern Ontario wholesale gasoline prices more closely matched those of Winnipeg and not those of Southern Ontario,

Figure 5: Ontario Refined Petroleum Products Infrastructure



we must examine the infrastructure involved in transporting finished petroleum products to retail stations in Ontario (**Figure 5**). Most of Ontario largely depends on gasoline produced from four Southern Ontario refineries and one Quebec refinery (Montreal). Finished petroleum products are generally transported from those refineries to primary distribution terminals in Southern Ontario by pipeline, the most cost-effective mode to move petroleum products. Northern Ontario terminals are further from points of production and do not have access to refined product pipelines, meaning terminals in Sault Ste Marie or Thunder Bay are supplied via marine transport, rail, or tanker trucks. Marine supply is a relatively cost effective method to move refined product, but is only available when weather cooperates; most northern terminals would have

access to petroleum products via rail, a more expensive but reliable method to transport petroleum products. If rail is not available, petroleum products could be delivered by tanker truck to a distribution terminal; however, this method is by far the most expensive mode of transportation. Generally, the longer the distance a product is transported by either rail or truck, the higher the expense.

Thunder Bay and other Northwestern Ontario markets are unique; while they can be served by refineries in the central Canada (Ontario/Quebec), they are most closely linked to markets in western Canadian, being supplied mainly by rail and tanker truck from Winnipeg. Therefore, wholesale gasoline prices in Northwestern Ontario are most often influenced by wholesale prices in western Canada, and they can at times move completely independently of prices in Southern Ontario.

As **Figure 6** shows, Thunder Bay’s wholesale gasoline prices have consistently followed Winnipeg’s prices more closely than prices in Southern Ontario, showing a small but steady differential to Winnipeg that has shifted with changes in the cost and availability of transport capacity. Since the terminal in Thunder Bay supplies a large number of bulk plants throughout Northwestern Ontario, higher prices at this terminal in late-2018 (caused by western Canadian market conditions) meant wholesale prices in many other Northwestern Ontario markets remained high and moved independently of those in Southern Ontario.

Another component of the pump price that influences retail prices is the marketing margin, which is defined as the difference between the pump price (with taxes removed) and the wholesale price. The marketing margin must cover a broad range of costs such as the transportation of petroleum products from distribution terminals to the gas station, all operating costs of the gas station, as well as any profit for the retailer. This portion of the pump price can vary by station due to factors such as: distance from a primary terminal (greater distance means a higher cost), retail throughputs (a higher volume of gasoline sold at a station often means there is a smaller fuel margin needed to cover costs), and revenue for ancillary offerings (more revenue from non-fuel sales such as convenience store goods, restaurants, or car washes generally means less margin required from fuel).

Despite the fact that margin requirements can vary by site, Northern Ontario gas stations have (on average) a higher margin need due to higher transportation costs and lower average station throughput. Unless revenue from ancillary offerings makes up the difference, average marketing margins are likely to be higher in Northern Ontario to meet their higher fuel margin requirement.

Figure 4 shows that the average marketing margin in Thunder Bay was 11.3 cents per litre in 2018, while Winnipeg’s was 5.4 cents per litre; this was partly a consequence of Winnipeg’s average site throughput being 35 percent higher than Thunder Bay.

Lastly, the pump price includes a tax component, and though most petroleum taxes are set at a fixed rate, pump prices in Ontario include the Harmonized Sales Tax (HST), which is calculated on a percentage basis and varies with price. Higher Northern Ontario wholesale prices and higher marketing margins translate to a higher amount of HST than what is included in Southern Ontario prices. In 2018, the average price per litre in Thunder Bay included an additional 1.7 cents per litre of HST when compared with Sarnia.

Northern Ontario gasoline prices are often higher than those in Southern Ontario, and it is common for those prices (particularly those in the region surrounding Thunder Bay) to move independently of prices in Southern Ontario. The reasons for this are varied: higher costs to transport products to Northern Ontario, lower average throughputs and higher distribution costs contributing to higher marketing margins, and the influence of Western wholesale markets. This unique combination of factors can help explain what may be viewed as anomalous pricing in Northern Ontario.

Figure 6: Weekly Thunder Bay, Winnipeg, & Sarnia Wholesale Gasoline Prices, 2016-2018

