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Second Quarter 2020
April – June

Petroleum Prices Dropped to Multi-year Lows in Second Quarter Following a Significant Crude Price Drop and Low Refining Margins

Retail gasoline and diesel prices reached multi-year lows in the second quarter as Canadian crude prices dropped to lows not experienced in over twenty years, and refining margins contracted upon a significant decrease in demand amid COVID-19.

The outbreak of COVID-19 in early 2020 has had a significant impact on Canadian petroleum markets. By March 22, all Canadian provinces had declared a state of emergency, restricting travel and closing businesses in an attempt to stop the spread of the virus. Reduced travel in Canada, as well as globally, has resulted in a substantial decrease in the worldwide demand for petroleum products. This has had the effect of reducing refining activity, leading to a glut in crude oil, and consequently, lower crude prices. The average April Canadian crude price was the lowest experienced since June 1999, having fallen over thirty cents per litre from the end of 2019.

With the onset of travel restrictions, gasoline demand dropped immediately at a time when seasonal demand typically ramps up. Consequently, North American gasoline stocks climbed well above normal levels, and gasoline wholesale "rack" prices plummeted. In April, gasoline prices reached lows not experienced since December 2008. As emergency restrictions began to ease during the latter part of the quarter, gasoline demand picked up. In conjunction with recovering crude prices, retail gasoline prices increased, although still ending the quarter at multi-year lows.

When travel restrictions first came into place at the beginning of the quarter, the demand for diesel fuel was buoyed by sustained trucking demand as many consumers stock-piled necessities and online shopping increased. Refiners initially reacted by adjusting product yields to favour diesel fuel over gasoline and jet fuel. In fact, with jet fuel demand extremely low, many refineries converted jet fuel into diesel fuel due to their similar properties. During the second part of the quarter, diesel demand began to drop amidst lower economic activity. Consequently, diesel stocks began climbing in May, reaching well above normal levels. As rack prices tumbled, retail diesel prices reached lows in May not experienced since February 2016. **Figures 1 & 2** show the historical movement of retail gasoline and diesel prices in Canada, along with their component prices.

Figure 1: Canadian Average Regular Gasoline and Component Prices

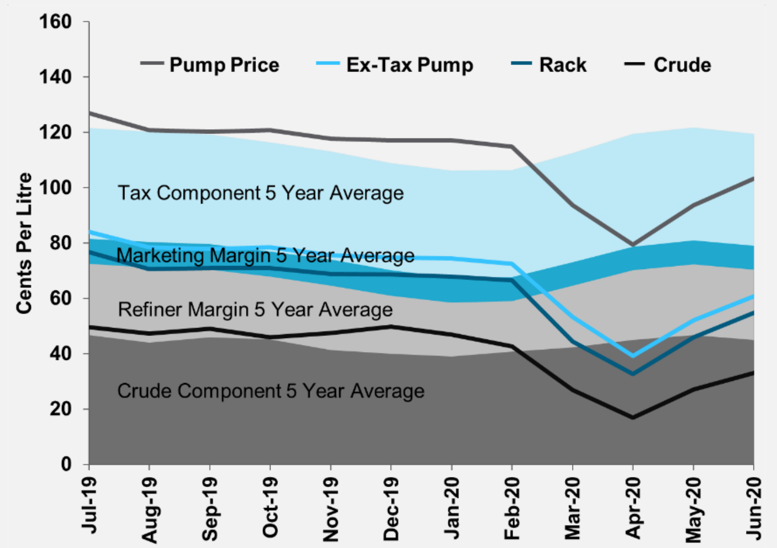
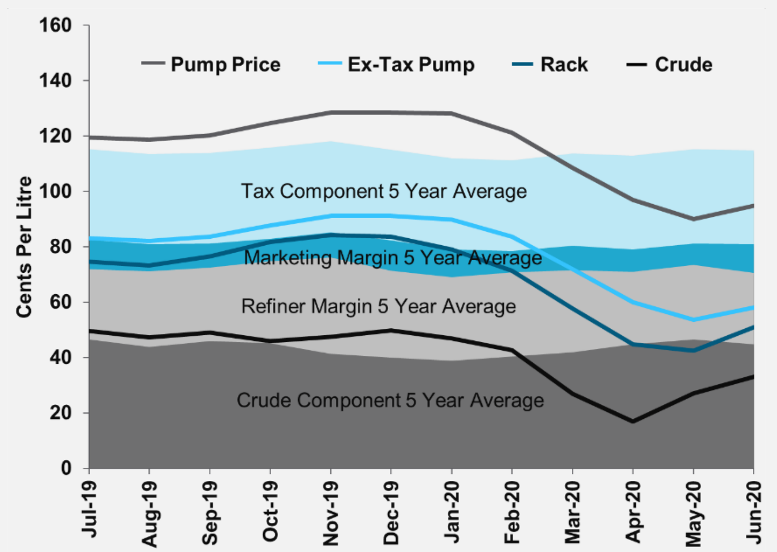


Figure 2: Canadian Average Diesel and Component Prices



Reduced consumer demand for petroleum products caused a reduction in refinery output, consequently triggering an unprecedented drop in demand for crude oil. This, combined with attempts by major crude oil producing groups such as OPEC and Russia to gain market share by increasing production, caused crude inventories to swell in April. The situation became critical in North America as storage levels at Cushing, Oklahoma (the pricing point for the key WTI North American benchmark) reached 83 percent of capacity by the end of the month. WTI front-month futures prices reached negative territory on the last trading day before the April contract expiry, as limited storage options and few contract buyers were causing many contract holders to pay buyers to close contracts. With an extraordinary agreement reached by OPEC and a group of non-OPEC countries (OPEC+) to limit crude oil production for the remainder of 2020 and well into 2022, crude oil prices began climbing in May and June. The price of Brent crude (a global benchmark), reached a low of 19.33 $US/BBL in April, before rising to end the quarter at 41.46 $US/BBL, 57.3 percent above the end of the previous quarter. Similarly, the key North American WTI benchmark saw a similar pattern climbing to 39.27 $US/BBL by the end of the quarter, 91.6% above the end of the previous quarter. Brent's premium to WTI remained low over the quarter, averaging 2.8 $US/BBL in May and June.

The heavy/light crude oil price spread between WTI and Western Canadian Select (WCS) shrank in the second quarter as reduced Canadian crude production has led to fewer pipeline capacity constraints and less need to ship crude by rail. The heavy/light discount averaged 8.84 $US/BBL in the second quarter, down from 17.37 $US/BBL in the previous quarter.

Gasoline and Diesel Market Overview

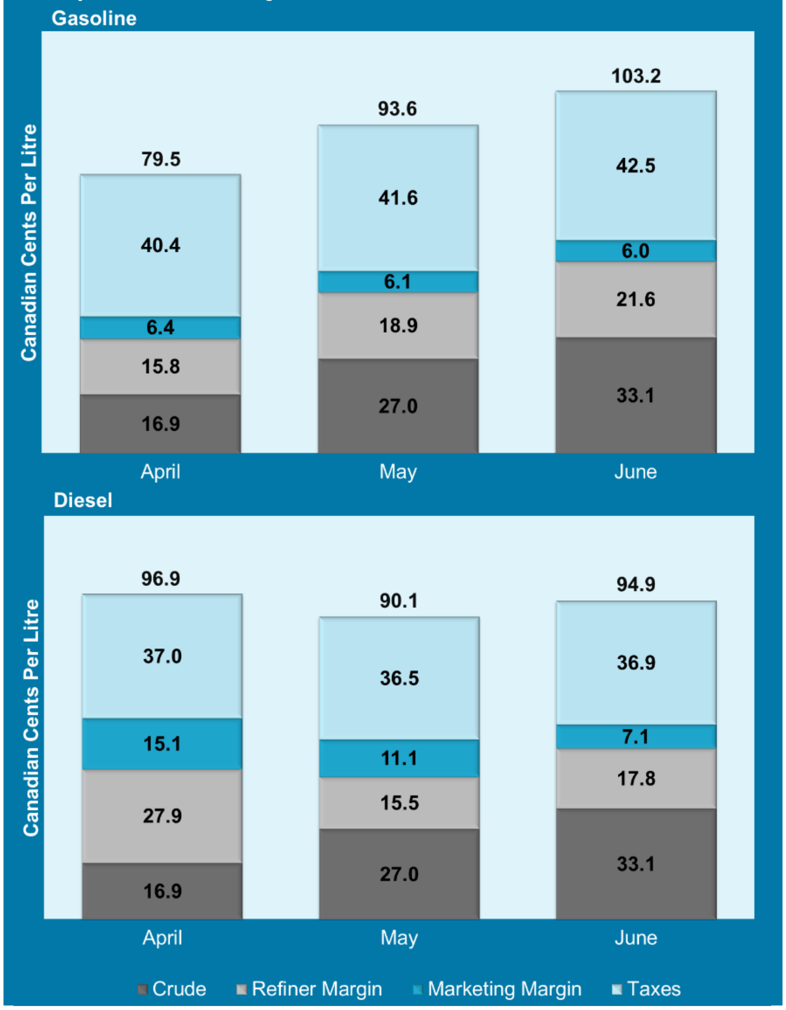
Gasoline rack prices dropped in April as crude prices reached a twenty-plus year low, and refining margins fell with low demand and high inventories. As a result, retail gasoline prices reached lows not experienced since December 2008. Retail gasoline prices climbed in May and June as demand picked up and refining margins expanded, as well as from higher crude prices, which nearly doubled in June from April's lows.

The regional disparity between wholesale gasoline prices expanded over the second quarter as demand picked up, and local production and inventory levels differed. In June, West Coast wholesale gasoline prices were nearly 22 cents per litre above East Coast prices as the West Coast has limited alternate supply options due to geographical isolation from the rest of the country. In contrast, the North American eastern seaboard is well supplied, with inventories sitting above seasonal norms.

During the initial stages of emergency shutdowns due to COVID-19, demand for diesel fuel did not fall as rapidly as gasoline fuel, and diesel rack prices averaged over 12 cents per litre higher than gasoline rack prices. As demand began to taper in May, and inventories climbed, diesel rack prices fell, and refining margins were squeezed to almost half of April levels.

Regionally, wholesale diesel prices were consistently lower throughout the second quarter along the East Coast. This is likely a result of regional inventories that climbed throughout the quarter and are well above seasonal norms. In comparison, stocks within the interior of North America and along the West Coast have remained relatively stable in 2020. (**Figure 3**)

Figure 3: Canadian Average Gasoline and Diesel Price Components for 2nd Quarter 2020



Next Quarter Market Outlook

A significant amount of market uncertainty remains concerning the effect on global demand for petroleum fuels amid COVID-19. Global demand for fuels remains low, and it is unclear when it will return to normal levels, given the uncertainty around a possible second wave of COVID-19 and the long term effects of decreased economic activity. Global crude production cuts in the second quarter have brought some stability to crude oil prices, and it is expected these cuts will continue at some level for the remainder of 2020 and into 2022. Consequently, any increases to retail petroleum prices will be mitigated for the remainder of 2020 upon increased crude oil production capacity.

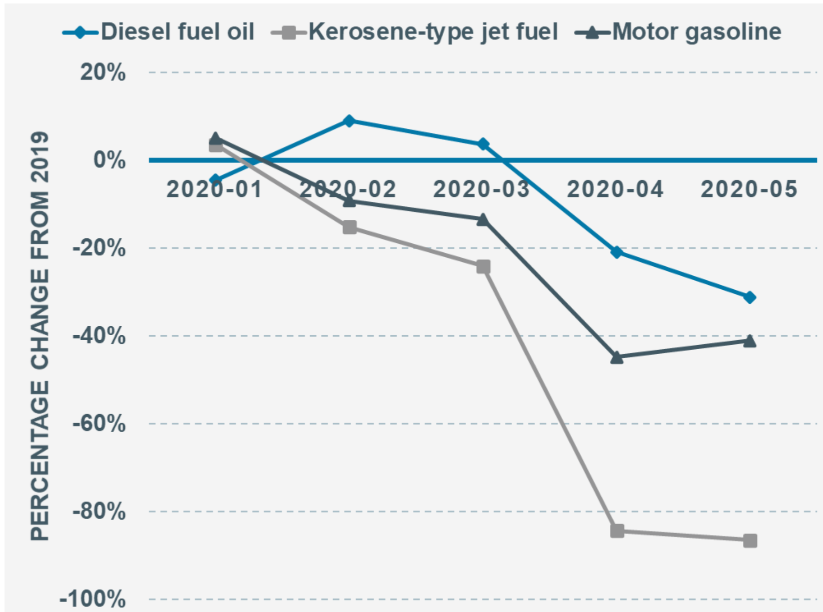
Gasoline demand is expected to pick up in the next quarter as Canadian provinces begin removing some COVID-19 related restrictions. With reduced refinery gasoline production, we may see some upward pressure on retail gasoline prices in the next quarter if inventory levels drop. However, prices will likely remain below levels in recent years as crude prices remain lower. Lower seasonal diesel demand and high inventory levels will likely keep diesel prices moderately firm in the coming months.

COVID-19 and Canadian Petroleum Markets in Second Quarter

We are living in unprecedented times. The COVID-19 pandemic has had extraordinary effects on petroleum markets in Canada and worldwide. With restrictions in place to control outbreaks, thus reducing travel by vehicle and air, there have been drastic reductions in demand for petroleum products. Petroleum product demand decreases have not been equivalent among different products, and this has presented some challenges to refiners. In this section of the newsletter, we will examine how Canadian refineries have reacted and the effect this has had on Canadian petroleum prices. Is the Canadian market on the road to recovery?

Attempts to control the outbreak and "flatten the curve" after the virus entered Canada in January led provinces to enact various states of emergency. By March 22, all Canadian provinces were in some form of lockdown. The effects on petroleum demand were drastic. In April, the first full month of lockdown efforts, gasoline consumption in Canada fell nearly 45 percent from the same month last year (**Figure 4**). Diesel fuel demand fell less steeply in April, down 21 percent, while jet fuel demand fell dramatically, down 84 percent. May data, the most recent month available, shows demand for all three types of fuel remaining well below levels from a year ago. While diesel and jet fuel demand had fallen further (31 and 87 percent respectively), there was a slight recovery in gasoline demand in May.

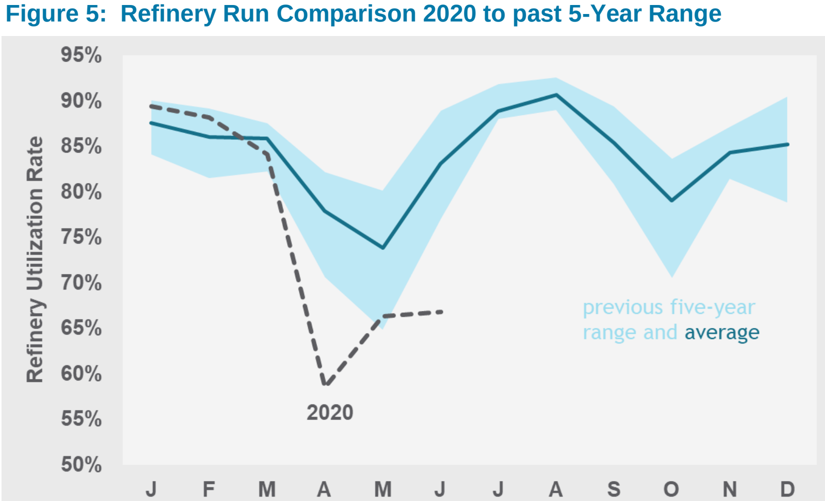
Figure 4: 2020 Monthly Demand Comparison to 2019



Source: Statistics Canada , Table #25-10-0076-01

The COVID-19 virus affected many countries before becoming problematic in Canada. Consequently, global fuel demand decreased worldwide before impacting Canadian markets. Globally, as refineries reduced outputs in response to low product demand, the need for crude oil inputs into refineries also declined, leading to a glut of crude oil. Additionally, in March, the Organization of the Petroleum Exporting Countries (OPEC) and a group of oil producing countries (collectively referred to as OPEC+) began a crude price war in a bid to increase market share. Low oil prices led to lower refined product prices, abroad and in Canada.

Figure 5: Refinery Run Comparison 2020 to past 5-Year Range



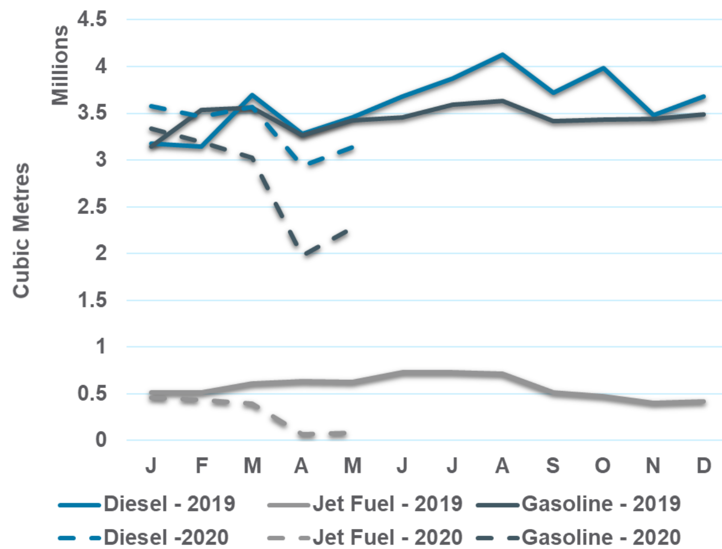
Source: Canadian Energy Regulator

Canadian refineries similarly reduced refining activity in response to low product demand (**Figure 5**). This included the closure of Newfoundland's sole plant, the North Atlantic refinery. Refining output in Canada fell to an average of 58.5 percent of capacity in April, far below the previous five-year range. May and June utilization rates remain well below seasonal norms, running at just two-thirds of capacity. Not only have refiners been challenged with reduced operations, but they also face balancing product yields with unpredictable demand patterns.

Sustained trucking demand from consumer stock-piling and increased online shopping maintained diesel demand in March and April. As Canadian gasoline wholesale prices fell at a faster rate than falling crude prices, those refining margins were squeezed, reaching as low as 6.4 cents per litre in late March. In contrast, with wholesale diesel prices falling less dramatically, diesel refining margins expanded to as high as 36.9 cents per litre by the end of March. Consequently, Canadian refineries adjusted production yields, reducing gasoline production by 39 percent year-over-year in April, while diesel production was adjusted downward by only 11 percent. With extremely low jet fuel demand, refiners produced additional diesel fuel by converting jet fuel production to diesel fuel production due to the two product's similar nature (**Figure 6**).

Adjustments to product yields in April likely matched product demand trends. But as many provinces in Canada moved towards various stages of re-opening in May and June, demand among different products changed. People began driving more, increasing gasoline demand, while the economic effects of shutdowns began affecting diesel demand, which is closely linked to gross domestic product. As refiners increased gasoline production in response to increased demand, diesel fuel production also increased as a technical necessity, and particularly as jet fuel production was diverted to diesel production. Consequently, diesel inventories expanded, and wholesale diesel prices fell below wholesale gasoline prices in May and June.

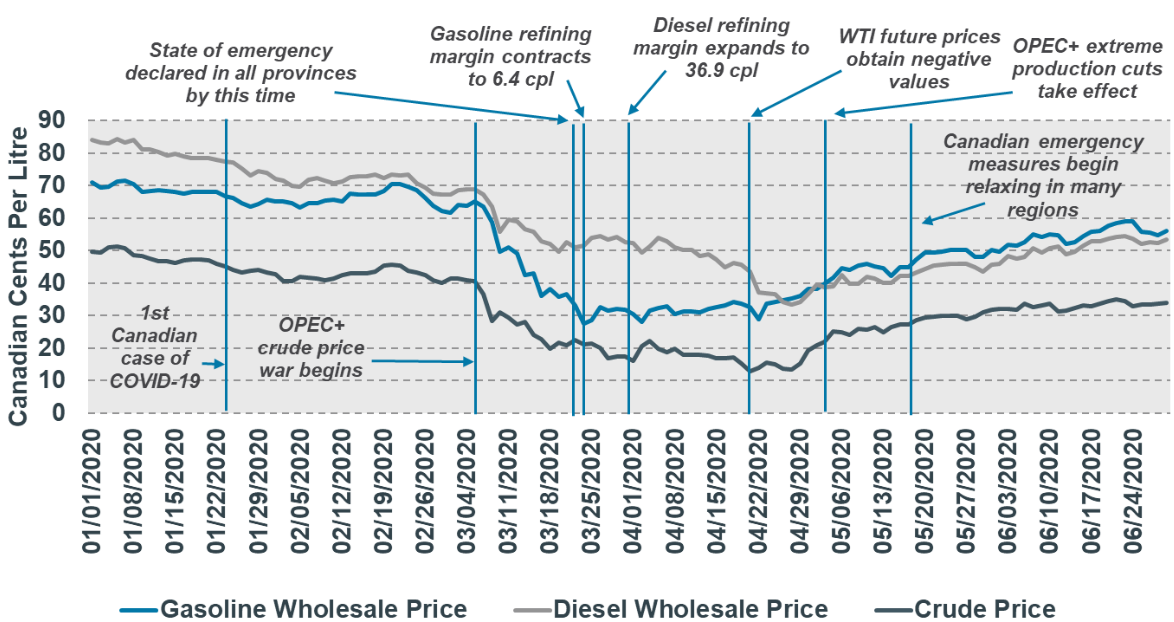
Figure 6: Canadian Petroleum Production 2019, 2020



Source: Statistics Canada , Table #25-10-0076-01

Additionally, crude prices have been climbing since April. After reaching extreme lows by the end of March, crude prices remained low in April as inventories remained high. By late April, crude storage capacity became critical. The main storage hub and pricing point for the key North American benchmark, West Texas Intermediate (WTI), reached 83% capacity near the end of April, nearly double the inventory levels at the onset of the pandemic. WTI futures prices reached negative values, a previously unheard of event, on the last day of trading in April as there were few storage options. Many futures contract holders paid other buyers to close contracts. By this time, OPEC+, agreed to undertake extreme crude production cuts, beginning in May. This has lent support to crude prices and brought stability in May and June. **Figure 7** shows a timeline of the effect of COVID-19 in 2020 on Canadian petroleum prices.

Figure 7: : A Canadian Timeline of COVID-19 Highlights



So what can be expected for Canadian petroleum prices going forward? Planned crude production limits by OPEC+ and lower North American crude production (due to lower crude prices) will likely moderate any steep increases to crude prices for the remainder of 2020 and well into the next year. However, some lifestyle changes experienced during COVID-19, such as working from home and higher online shopping, may become permanent for some. Combined with ever-increasing environmental fuel standards, it is difficult to predict whether fuel demand will ever return to pre-pandemic levels. Evidence of a second wave of COVID-19 in the U.S. (and uncertainty on when a second wave will hit Canada) will continue to have profound effects on product inventories and wholesale prices. Additionally, the economic impact of the shutdowns experienced will likely have long-lasting outcomes on petroleum product demand for the foreseeable future.

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