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British Columbia Utilities Commission

Inquiry into Gasoline and Diesel Prices in British Columbia

Final Report

August 30, 2019

Before:
D. M. Morton, Panel Chair
D. A. Cote, Commissioner
M. E. Doehler, Commissioner

TABLE OF CONTENTS

Page no.

TABLE OF FIGURES

LIST OF TABLES

APPENDICES

1.0 Introduction

On May 21, 2019, the British Columbia Utilities Commission (BCUC) was requested by the Lieutenant Governor in Council, under section 5(1) of the *Utilities Commission Act* (UCA), to conduct an inquiry respecting gasoline and diesel prices in British Columbia in accordance with the terms of reference set out in section 3 of Order in Council (OIC) No. 254 (Appendix A).

The BCUC issued Order G-112-19 which established a regulatory timetable for this inquiry and all invited participants were requested to register as interveners and complete a questionnaire about their respective roles in the gasoline and diesel supply chain. Due to the nature and timeline of the Inquiry, the BCUC limited intervener status to parties who are actively involved in the gasoline and diesel industry such as refiners, transportation and storage companies, wholesalers, distributors, marketers, retailers, government and regulators.

The following parties registered as interveners in this Inquiry:

- Robyn Allan and Marc Eliesen (Allan and Eliesen)
- Super Save Group (Super Save)
- Parkland Fuel Corporation (Parkland)
- Husky Energy Inc. (Husky Energy)
- 7-Eleven Canada, Inc. (7-Eleven)
- Shell Canada Limited (Shell)
- Suncor Energy (Suncor)
- National Energy Board (NEB)
- Advanced Biofuels Canada (Advanced Biofuels)
- Imperial Oil Limited (Imperial Oil)
- Costco Wholesale Ltd. (Costco)

Interveners voluntarily participated in this Inquiry, and the Panel acknowledges the relatively short time provided for submission of their evidence. The Panel thanks all the Interveners that participated and attended the workshops on short notice at a time when many had limited resources available to do so.

In addition to the evidence from the interveners, letters of comment were received from three interested parties and seventy from members of the public. The Panel acknowledges the contributions made by all participants in the Inquiry and we thank them for doing so. We considered all comments in making our findings as set out in this report.

2.0 OIC Responses

These responses summarize the Panel's findings in this Inquiry. Specific findings can be found in the referenced sections of this report. Please refer to Appendix E for a further explanation of the terms refining margin, retail margin and rack rate.

2.1 Factors influencing gasoline and diesel prices since 2015 and the mechanisms the Province could use to moderate price fluctuations and increases

Based on the letters of comment, many people do not believe anything has changed since 2015 to justify the higher prices for gasoline and diesel. They believe there is collusion and price gouging in the gasoline and diesel market.

Northern BC wholesale prices are set based on wholesale gasoline prices in Edmonton while Southern BC wholesale prices are set based on available prices in U.S. markets, primarily the Pacific Northwest (PNW) spot price. Although over the long term these prices generally track the price of crude, they do not follow in lock step.

This methodology makes the southern BC wholesale prices particularly susceptible to price changes driven by supply shortages in the Western U.S. In addition, it exposes these prices to exchange rate risk. We examine the pricing methodology in Section 6 of this report.

Relying on wholesale prices in other jurisdictions appears well established. In addition, there may be some support in economic theory for such an approach. However as discussed in the report, in practice wholesale prices in southern British Columbia are set based on the PNW spot price because that is the closets location for which a “market” price exists. There may be no direct connection between that price and the cost to refine gasoline in BC or import it from Alberta, but the argument is made that because an arbitrage opportunity theoretically exists for BC wholesaler using this price is further justified.

As a result the wholesale price may be set based on the cost to acquire a relatively small proportion of the gasoline and diesel required to supply the BC market. As an example, the price of gasoline and diesel for southern BC is routinely set based on the cost to acquire, from the PNW, about 3 percent of the gasoline needed. Much of the remainder of the likely supply costs less and, if Parkland’s expert is to be believed all of the remaining 97 percent of supply is cheaper.

This means that as long as an external price referent, such as the PNW spot price, is relied on consumers in BC will not benefit from lower prices associated with more cheaply sourced supply, thereby, in effect paying a “premium”.

This premium that is paid is in addition to the unexplained 13 cent per litre differential we found between the Vancouver and PNW wholesale gasoline prices. To illustrate the impact of this, for gasoline, every 1 cent per litre premium costs consumers $49 million per year.

Regardless of the methodology followed, there has been an increase in the differential between the wholesale price in the province, compared to prices in Seattle and Edmonton. This increase is more than can be explained by inflation, foreign exchange or any other factors. In early 2019, this unexplained difference was 13 cpl. We discuss this further in the next two sections (Sections 2.2 and 2.3).

Some of the factors that have changed since 2015 include higher crude prices; Trans Mountain Pipeline (TMPL) capacity constraints; retailer’s higher costs; and volatility.

All areas in Canada and the US have experienced large fluctuations in the price of crude oil since 2015 at the same time. Therefore, this does not explain the increase in the differential. The change in TMPL capacity constraint, by coincidence, started to occur in 2015. The possible cost increases incurred by the Oil Companies[1] to bring-in supply by alternative means was examined and we made an estimate of the increased costs to meet the BC Low Carbon Fuel Standard (LCFS) requirements. Since 2015, some of the increase in the differential, can be explained by these cost increases. However, even with these additional costs, a substantial amount of the increase in the wholesale price differential is not explained by the evidence before the Panel.

There are other changes that have occurred since 2015. They include such things as the Oil Companies selling their downstream assets (retail gas stations), Parkland's purchase of the Chevron refinery and their retail stations, and a slow decline in the demand for gasoline. However, the Panel could not find any direct link between these other change factors and the increase in the differential.

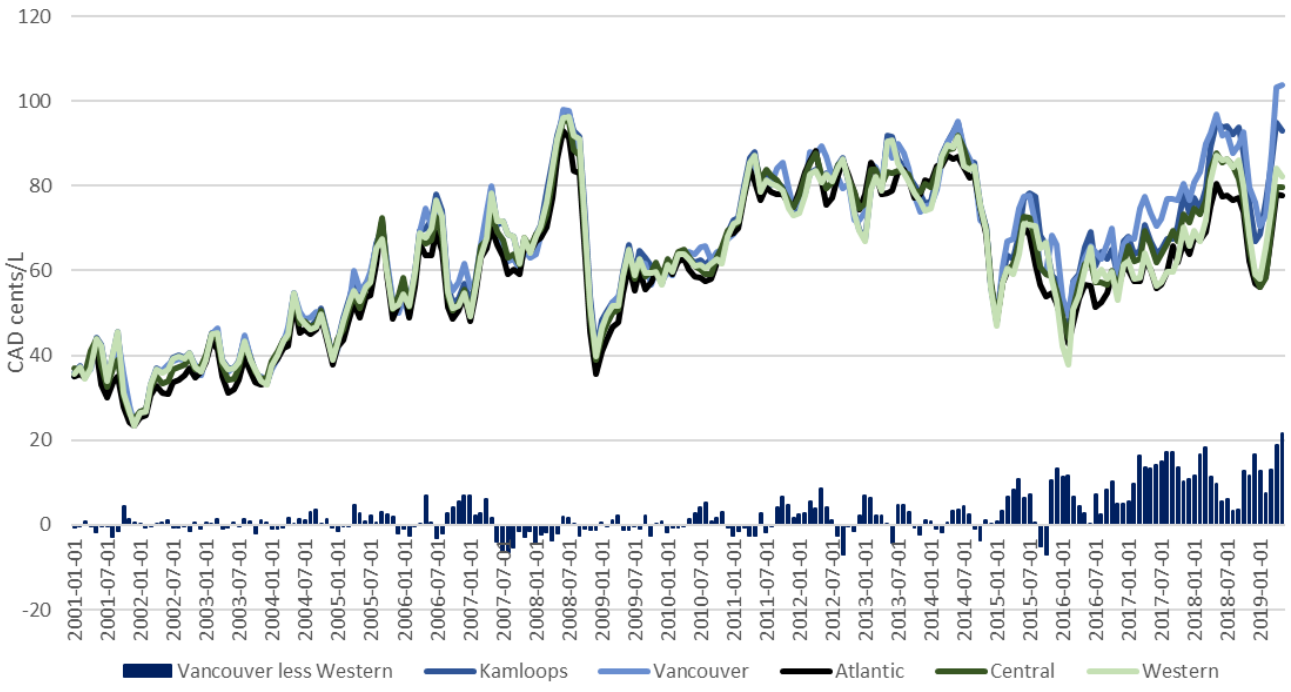
These findings are discussed further in Section 6.0 of the report.

2.2 The differences, if any, in refining margins among British Columbia and other jurisdictions in Canada and the reasons for any differences.

Refiner Margin

The differential between BC wholesale prices and prices in western Canada can be seen in the graph below:

Figure 1: Wholesale Gasoline Prices in Canada[2]



[1] Oil Company refers to a company that owns a primary terminal in BC: Parkland, Husky Energy Inc. (Husky Energy), Suncor Energy (Suncor), Shell Canada Limited (Shell) and Imperial Oil Limited (Imperial Oil).
[2] Exhibit A2-1, p. 24.

Prior to approximately 2015, prices were closely correlated. However, since then, the difference between, for example, Vancouver and Western Canada prices rose to about 20 cents per litre (cpl) in early 2019.

We examined how wholesale prices are set in BC and were informed by Dr. Kahwaty, Parkland's expert economist that the price was based on the cost of the most expensive barrel of gasoline that is sold in the wholesale market in BC. However, testimony from the wholesale providers suggested that the price is actually set for southern BC based primarily on PNW spot prices. Wholesale prices for northern BC are generally set in Kamloops and they track Edmonton rack prices because that tends to be the source of supply for northern BC. We compared PNW spot price with Vancouver wholesale prices and, after allowing for currency exchange, inflation and costs associated with shipping and importing the gasoline to BC, found an unaccounted for differential. This differential in 2019 was 13 cpl.

There is also a differential between Kamloops wholesale prices and Edmonton wholesale that began in early 2015. By 2018, this differential was 6 cpl.

Although supply from the PNW constitute only about 3 percent of BC's total imports, the unexplained differential of approximately 13 cpl applies to all wholesale gasoline sold in southern BC. Given the differential of 13 cpl in southern BC and 6 cpl in northern BC we estimate that applying an average 10 cpl differential to all gasoline sold in BC consumers paid approximately $490 million per year more than they otherwise would have paid.

We cannot find a specific trigger in 2015 that would explain the beginning of this disconnect. While there was a change in the Trans Mountain pipeline allocation methodology, its economic effect was muted until 2018.

We did not find a disconnect in diesel prices between BC and the rest of Canada.

These findings are discussed further in Section 6.3 of the report.

2.3 The differences, if any, in retail margins among British Columbia and other jurisdictions in Canada, and among different regions in British Columbia, and the reasons for any differences.

Reported retail margins for gasoline sold in BC are higher than other parts of Canada and, with respect to Western Canada, this divergence has increased since 2015. Due to issues related to the calculation of the retail margin and their effect on the validity of the retail margin numbers being reported, only limited weight can be placed on the magnitude of reported differences in retail margins between regions. In addition, while the value of land is not a direct driver of prices or margin, in certain cases the opportunity cost related to it can be used to justify a higher retail margin than in other regions with lower land values. Finally, retail margins in Kamloops follow the trend in the Western Canada Region quite closely while Vancouver appears to have outpaced the growth in retail margin in Western Canada starting around 2015.

A close examination of the way retail margin information is collected indicates that there are difficulties pinpointing the actual or even an average price at which gasoline is being sold in a day. A second concern is the reliance placed on the rack rate as a basis for the calculation of the retail margin. Since the rack rate is commonly discounted and the level of discount varies among marketers and retailers, it is difficult to determine with accuracy the amount the retailer is actually paying for the gas being sold. Given these circumstances, the

Panel finds that due to issues related to the calculation of the retail margin and their effect on the validity of the actual retail margin numbers being reported, only limited weight can be placed on the magnitude of agency reported differences in retail margins between regions. Nonetheless, the Panel is satisfied these numbers are directionally correct but suggests that further work be done to find a more workable methodology for data collection.

In the Deetken Group's (Deetken) estimation credit card fees and land costs have significant differential impacts to the retail margin in Vancouver in relation to the Western Region with credit card fees accounting for approximately 1 cpl of the margin differential and land values accounting for 4.2 to 6.2 cpl of the difference. Marketers and retailers universally seemed to agree that the value of land while not a direct consideration in determining the retail price and the ultimate margin was an important consideration in a broader sense. Because of this, the Panel accepts that some level of differential in retail margins between BC and the rest of Canada may be reasonable.

Interveners involved in gasoline retailing were given the opportunity to provide a comparison of their retail margins between BC and other markets in Canada and a number responded confidentially. However, we cannot comment on any of the confidential information provided within this report. Although, we note that with respect to price setting in other markets, 7-Eleven observes that they "….appear to be more aggressive than competitors in the BC market, for whatever reason…"

These findings are discussed further in Section 6.9.1 of the report.

2.4 Factors that have contributed to the increases in gasoline and diesel prices, both retail and wholesale

2.4.1 The access of refineries in BC to crude oil supply and other components

Parkland submits that capacity constraints have led to the recommission of a crude-by-rail program in Q4 2018, which now accounts for five to ten percent of the crude supply to the Burnaby refinery.[3] Furthermore, rail is more expensive and inefficient relative to crude delivery by the TMPL, which has impacted Parkland's net margin.

While there may have been issues with access to crude by Parkland through the TMPL, Parkland states that it that has not affected BC gasoline prices as it is an infra-marginal supplier, [4] and therefore can only charge a competitive price and must absorb any costs associated with crude supply challenges. Husky Energy obtains crude oil from Northern BC through the Pembina pipeline and there is no evidence of any crude supply shortages affecting Husky Energy.

The evidence received in this Inquiry demonstrates that the BC refineries are infra-marginal suppliers – therefore changes in their costs do not affect the wholesale price. There are only two BC refiners and they supply approximately 30 percent of the BC gasoline and diesel market. The remainder of supply is provided in large part by Alberta based refiners and refiners in Washington state. Other sources of supply include the American Midwest, the Gulf Coast and other countries. While the wholesale market suppliers are all refiners,

[3] Exhibit C5-2, PDF p. 40.
[4] Parkland Fuel Corporation (Parkland) Final Argument, p. 8.

only two supply from BC based refineries. The rest supply either from refineries they own and operate elsewhere and/or with gasoline and diesel they have obtained from other sources.

These findings are discussed further in Section 5.2.1 of the report.

2.4.2 The amount of gasoline and diesel stored in BC for sale in BC

All the Oil Companies stated that they have sized their infrastructure to meet the needs of the marketers and retailers with whom they have signed supply contracts. Parkland states that there has been no material change in the amount of gasoline and diesel stored in BC since 2015 other than Imperial Oil adding some capacity. This capacity was added by Imperial Oil partly to deal with the reduced delivery of refined product on the TMPL.

Parkland and Suncor mentioned how the increase in regulatory compliance has led to storage constraints as some of the tanks had to be repurposed to store some of the additives required for this compliance. This repurposing appears to have affected the efficient operations of the Primary Terminals, but neither commented upon whether this has affected the company's ability to deliver the requested quantum of product to their wholesale customers.

The Inquiry requested, but was not provided with, the throughput or inventory levels of product in the Oil Companies' terminals. Given the statements that they are operating at, or close to, capacity, it appears that the amount of storage (or change since 2015) has not been a factor in price changes.

The infrastructure for importing and storing refined products has largely developed around the capacity of the Trans Mountain Pipeline (TMPL). This includes port facilities, primarily in the Lower Mainland and Vancouver Island for offloading refined products. If the province had to replace refined products that are currently supplied by TMPL, there is inadequate infrastructure in BC to transport, receive, store and distribute large quantities of refined fuels from any market other than Alberta. This underlines the need to consider whether there is a need for further infrastructure development. Doing so could create flexibility and the ability to manage shortages should they occur.

These findings are discussed further in Section 5.4 of the report.

2.4.3 Usage of Refinery and Pipeline Capacity

Starting in 2015, there has been a reduction in pipeline capacity for refined products and an increase in capacity for crude. However, as the wholesale price of gasoline is based on the PNW spot price, this has not affected gasoline prices. Nevertheless, the impact of this change is discussed below.

There has been no change in refinery capacity and no change in utilization that would affect prices. The evidence received in this Inquiry demonstrates that the BC refineries are infra-marginal suppliers – therefore changes in their costs do not affect the wholesale price unless an increase in costs results in gasoline refined in BC becoming the marginal supply. This implies that falling crude oil prices will not affect the wholesale price of gasoline.

Refineries

Both Parkland's refinery in Burnaby and Husky Energy's refinery in Prince George process light crude. The two refineries in BC have a total refining capacity of 67,000 barrels per day (b/d). Parkland brings in approximately 90 percent of crude requirements from Alberta on the TMPL with the remaining percentage coming in by rail.[5] Husky Energy sources conventional crude through the Pembina Pipeline connecting Prince George with Taylor in northern BC.[6]

As cited in Section 4.3, in 2017, Canadian refineries operated at 84 percent of their capacity. As discussed in Section 5.2, Parkland reports that refinery utilization for the first quarter of 2019 was 92 percent and overall is reported to be greater than 90 percent.[7] However, Parkland's Burnaby refinery has recently operated at less than its capacity because of an inability to import sufficient stocks of crude oil to operate the refinery at a higher level in addition to an 8 week maintenance shutdown in 2018.[8] Husky Energy states that refinery utilization over the past four years has averaged 83 percent inclusive of downtime for planned and unplanned maintenance, putting them in the top half among benchmarks.[9]

In its final submission, Parkland states that BC's refineries are operating at their economic capacity, and have been since 2015 other than for specific operational reasons. Parkland further submits that the full economic utilization of these refineries has a favourable impact on the wholesale price in BC, since they are relatively low-cost sources of supply. Accessing relatively low-cost supply avoids the need to access higher cost imports that will drive up the wholesale price and refining margins.[10]

As for the refineries in Edmonton, Imperial Oil's refinery has a capacity of 187,000 b/d, Suncor Energy 147,000 b/d and Shell 100,000 b/d. In Saskatchewan, Federated Co-operatives Limited's (FCL) refinery has a capacity of 130,000 b/d. Imperial Oil reports that its national refinery utilization is approximately 90 percent on average, but did not confirm the actual utilization of its Edmonton facility. Suncor Energy reports that its refinery is running at full capacity while Shell and FCL did not disclose its capacity utilization. These refineries are primarily reliant on Alberta crude.

Pipeline Capacity

More pipeline capacity would only reduce prices if that capacity displaces the marginal barrel.

Holistically, the question of whether there is enough pipeline capacity can be asked as: can the TMPL carry sufficient crude and refined petroleum products (RPP) to supply both Parkland and the remainder of RPP required in the BC market? This assumes that the Husky Energy refinery is supplied with crude by the Pembina Pipeline.

The short answer to this is that Parkland's refinery needs approximately 55,000 b/d of crude oil. BC's total demand for RPP is approximately 210,000 b/d. Parkland and Husky Energy combined supply approximately 30 percent of that – 67,000 b/d. Therefore, pipeline capacity for 143,000 b/d of RPP is required.

[5] Exhibit C5-2, Appendix A, p. 2.
[6] Oral Workshop Transcript Volume 1, p. 551.
[7] Exhibit C5-2, pp. 14-17; Appendix A, p. 12.
[8] Exhibit C5-2, Expert Report of Dr. Henry J. Kahwaty, p. 76; Affidavit of Dr. Michael J. Rensing, dated May 1, 2019 and filed May 1, 2019, p. 3.
[9] Exhibit C7-2, PDF p. 3.
[10] Parkland Final Argument, p. 9.

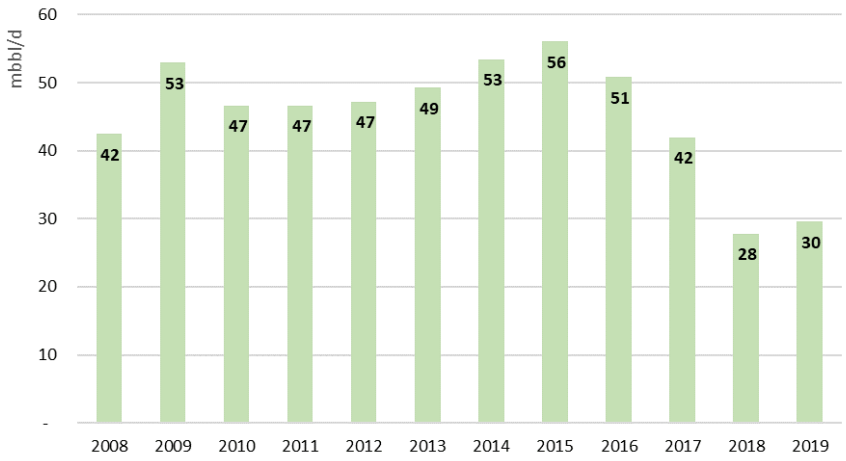
TMPL has a combined capacity of approximately 300,000 b/d which is sufficient to transport 55,000 b/d of crude and 143,000 b/d of RPP.

However, the situation is more nuanced. The TMPL is a common carrier under federal government jurisdiction. Access to the pipeline is apportioned, in the public interest, among competing needs. These interests include crude oil to BC's refineries and road-use fuels to the BC wholesale gasoline market. It also includes crude oil to refineries in Washington state (some of which makes its way back as road-use fuels to the BC market), and crude oil and road-use fuels for export.

Accordingly, the TMPL has not in recent years supplied all of BC's crude and refined product needs. For example, Parkland brings in approximately 90 percent of its crude requirements from Alberta on the TMPL with the remainder coming in by rail.[11]

Further to the TMPL allocation methodology changing in 2015, the change in the allocation methodology has affected the amount of refined product being transported by the TMPL. The volume of refined products shipped by pipeline has fallen from approximately 56,000 b/d in 2015 to approximately 30,000 b/d in 2019.

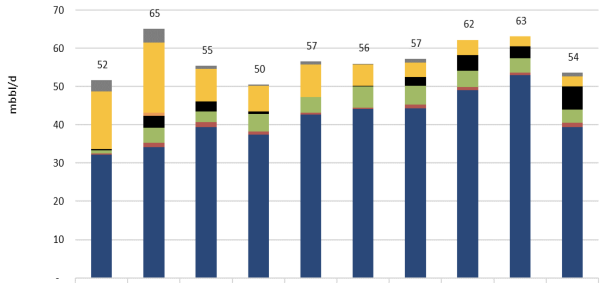
Figure 2: Trans Mountain Pipeline Average Throughput Allocated to Refined Products Per Year, 2008-Q1 2019



However, the reduction in refined product apportionment on the TMPL did not result in a decrease in the amount of gasoline and diesel shipped from Alberta until 2018 (see charts below – Figure 3 for gasoline, Figure 4 for diesel).

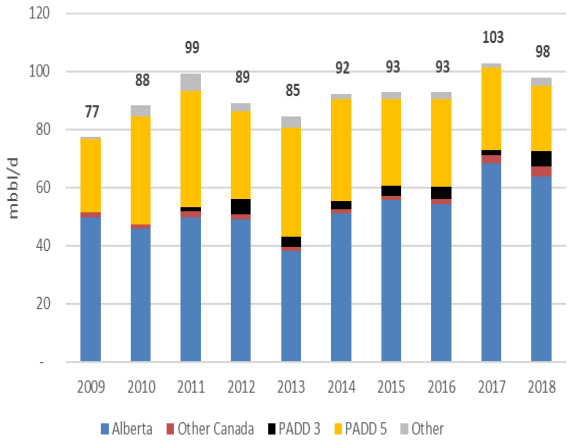
[11] Exhibit C5-2, Appendix A, p. 2.

Figure 3: Supply Sources for BC Road-Use (Clear) Gasoline[12]



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Other	3	4	1	0	1	0	1	-	-	1
PADD 5	15	18	8	7	9	6	4	4	3	3
PADD 4	-	1	-	-	-	-	-	-	-	-
PADD 3	0	3	3	1	-	0	2	4	3	6
PADD 2	-	3	3	5	4	5	5	4	4	3
PADD 1	1	1	-	-	-	-	-	-	-	-
Other Canada	0	1	1	1	0	0	1	1	1	1
Alberta	32	34	39	37	43	44	44	49	53	39
Total	52	65	55	50	57	56	57	62	63	54

Figure 4: Diesel Imports to BC[13]



It appears that the amount of refined products that were displaced from the pipeline were shipped by rail during 2016 and 2017. Rail is more expensive than pipeline – 5 cents/litre for rail compared to 2 cents/litre for pipeline. In addition, the conversion from pipeline to rail in some cases necessitated the development of infrastructure by some refiner marketers (e.g. the conversion of terminals to accept rail shipments and the acquisition of additional railcars by railroads). The evidence indicates, but does not conclusively show, that the growth in transportation by rail has, at least temporarily, slowed.

In 2018, there was a more precipitous drop in refined product shipments by pipeline. This is consistent with the Deetken Group's (Deetken) evidence, that "crude transport will only begin to displace refined product once the total export capacity for Alberta crude has been met. This was achieved in 2018 when Alberta started producing more crude than it had pipeline capacity to export."[14] Because the rail transportation system is essentially at capacity, the result is that exports from Alberta have dropped starting in 2018.[15]

[12] Exhibit A2-1-3, slide 6.
[13] Exhibit A2-1, p. 12.
[14] Exhibit B2-1-1, pp. 38-41.
[15] Oral Workshop Transcript Volume 2A, p. 51.

There were suggestions that the TMPL was actually running at significantly less than its capacity. However, there is no compelling evidence to suggest this is the case. While the change in allocation methodology better ensures the maximum use of its pipeline capacity, arbitrage opportunities have led to more crude, rather than refined products being shipped via the TMPL.

These findings are discussed further in Section 5.4 of the report.

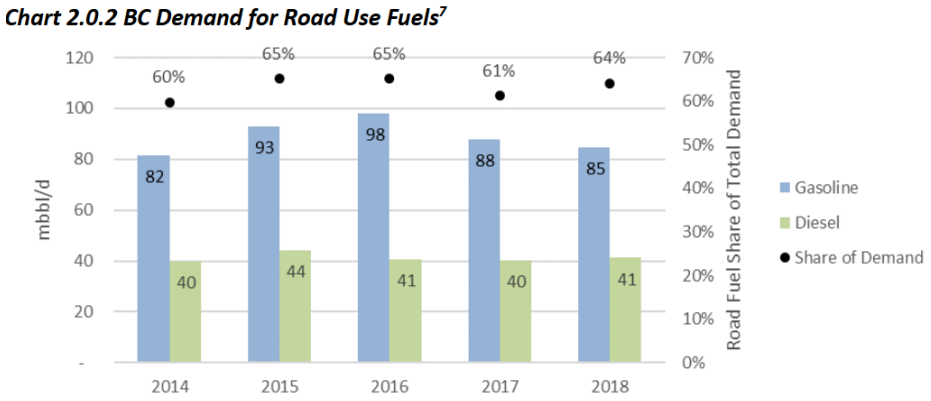
2.4.4 Wholesale and Retail Market Sizes and Demand

Demand

Market maturity and declining demand represents a barrier to entry for potential market participants. This lends credence to the view that the incumbent suppliers of wholesale gasoline and diesel in BC have market power.

Since 2014, BC's total RPP demand has been relatively constant at about 210 thousand barrels/day (Mb/d) and ranging between 213 Mb/d in 2016 to 197 Mb/d in 2018.[16] Evidence indicates that the demand for gasoline and diesel has remained relatively stable since 2014.[17] Indeed, what is shown in evidence is that gasoline demand peaked in 2016 and has since seen a modest decline while diesel has remained relatively stable in that same time span.[18]

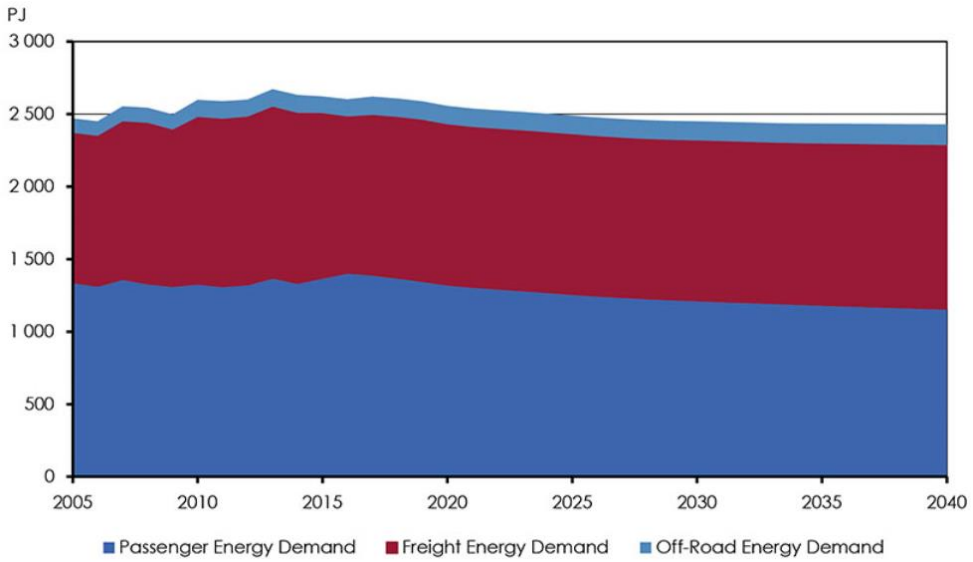
Figure 5: BC Demand for Road Use Fuels



Furthermore, the evidence on record indicates that gasoline and diesel demand is expected to decline in the long run.[19] The National Energy Board (NEB) has forecasted passenger and freight demand for energy for fuel types such as gasoline and diesel out to 2040, and estimates that there will be declining demand for these energy types:[20]

[16] Exhibit A2-1, p. 5.
[17] Ibid.
[18] Ibid.
[19] Exhibit C5-9, p. 18.
[20] Ibid.

Figure 6: Energy Demand Projections to 2040



The NEB suggests this decline is expected to occur as a result of increasing road transport costs related to higher carbon and energy prices, increasing emissions standard, an increase in electrical vehicle uptake, and various macroeconomic factors.[21] All else being equal, economic theory dictates that declining demand should exert downward pressure on prices.

Market size

The number of retail stations in BC, and the throughput of gasoline and diesel through those stations, has remained relatively constant since 2012.[22]

Table 1: Number of Retail Distribution Sites in BC

Year	2012	2013	2014	2015	2016	2017
# of retail sites	**1378**	**1372**	**1371**	**1368**	**1374**	**1384**

Although there are multiple players in the retail market, the point can be also be made that a significant number of independent players are tied by brand to the 5 major refiner-marketers and are reliant on these refiner-marketers for supply. Furthermore, refiner-marketers have direct control over pricing in 33.6 percent of BC's retail stations which is significantly higher than the average in Canada (at 23 percent). The Panel finds that the relationship of most dealers to the refiner-marketer may have an impact on whether there is a fully competitive market. While the impact of this cannot be quantified, this relationship increases effective market control. For further discussion on this topic see section 6.9 of this report.

The size of wholesale and refiner market has not changed appreciably since 2015, however the Panel notes that refinery ownership has changed since 2015.[23]

[21] Ibid.
[22] Exhibit A2-1, p. 4; Exhibit A2-1-1, p. 13.
[23] Exhibit A2-1-1, pp. 61-62.

Table 2: Refinery Ownership in BC, Alberta, and Washington state

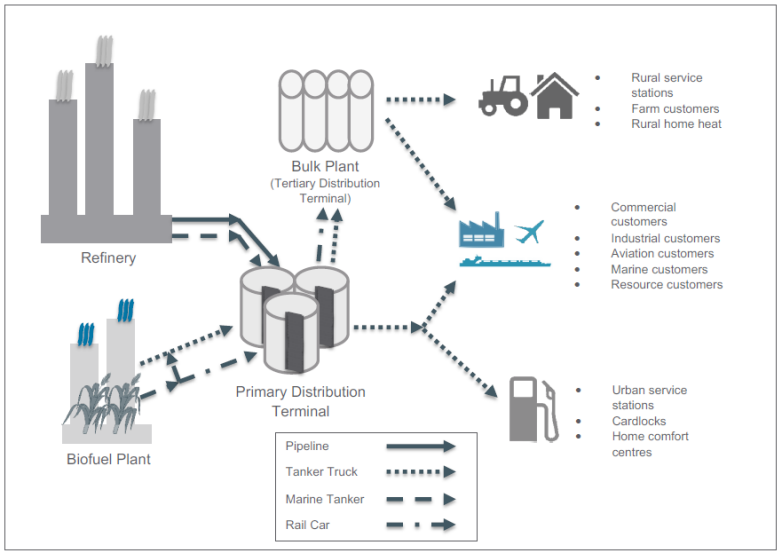
Location		Capacity (mbbl/d)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
BC	Burnaby	55	Chevron																		Parkland	
	Prince George	12	Husky																			
Alberta	Strathcona	191	Imperial Oil																			
	Edmonton Refinery	142	Petro-Canada										Suncor *(Purchased Petro-Canada)*									
	Scotford Refining	114	Shell																			
Washington	Anacortes	145	Shell																			
	Tacoma	41	US Oil								Astra Oil Trading						TrailStone					
	Anacortes	120	Texaco																	Andeavor *(Aug'17-Oct'18)*		Marathon
	Cherry Point	225	ARCO			British Petroleum																
	Ferndale	101	Tosco		Phillips / Conoco Phillips											Phillips 66						

These findings are discussed further in Section 5.6 of the report.

2.4.5 Methods of distribution of gasoline and diesel to retailers

The figure below depicts the flow of refined products to retailers. The distribution infrastructure in the province has not changed since 2015 and therefore has not affected the wholesale price of road use fuel since 2015.

Figure 7: Refined Product Movement within the Downstream Petroleum Industry Supply Chain



Oil Companies currently control all the Primary Terminals in the province. Given the significant barriers to entry, this oligopolistic wholesale market has the characteristics of a natural monopoly. We consider this a potential key factor in the rise of wholesale prices and if additional infrastructure is developed, consideration should be given to making it open to allow additional participants to enter the market.

We further address these issues in Section 6.8 of the report.

2.4.6 Seasonal Variations in Supply and Demand

Seasonal variations in supply and demand of gasoline have not changed significantly since 2015, and unlikely to have contributed to the growing differential between retail and wholesale margins in BC and the rest of Canada.

Demand

The demand for both diesel and gasoline is generally considered to be seasonal. Gasoline demand is greater in summer when people drive more frequently and less in winter, whereas diesel demand is greater in winter and less in summer. [24] Similarly, gasoline prices tend to gradually rise in the spring and peak in late summer and decline in winter months. [25]

Supply

The supply for gasoline and diesel does not appear to be seasonal because refiners try to operate at a constant volume to be economically efficient, and an appreciable change to this behavior has not been observed since 2015 in the evidence. Therefore, these seasonal supply changes have not contributed to the growing differential between retail and wholesale margins in BC and the rest of Canada.

One significant seasonal variation in BC which affects supply is the switch between the selling of winter gasoline and summer gasoline.[26] These seasonal changes add to the cost of gasoline because of the cost of different oxygenates summer gas contains and because refineries briefly shut down every year before they begin processing it.[27] However, these Government of Canada regulations have not changed since 2015 and are applicable across Canada and similar requirements are in place in nearby jurisdictions in the US, such as Washington and Oregon. Further, there are large parts of the year when neighbouring jurisdictions have stricter vapour pressure regulations. In short, these vapour pressure requirements cannot explain the growing differential in retail or refining margins.

These findings are discussed further in Section 6.6.1 of the report.

2.4.7 The extent to which gasoline and diesel price changes have been determined by competition and the extent to which those changes have been determined by other factors

Wholesale

In Section 6.2 we discuss the impact of the marginal barrel as explained by Dr. Kahwaty. We compared this to suppliers in a competitive market that are price-takers and also outlined the following key questions to be addressed:

1. What control, if any, do the five Oil Companies have over the BC wholesale gasoline and diesel market, individually or jointly?
2. Is there evidence of prices that diverge from what would be expected from more competitive markets?

[24] Ibid.

[26] Exhibit C9-2, p. 9; Oral Workshop Transcript Volume 2, p. 540.
[27] Ibid.

In answer to the first question, in Section 6.3.1 we found that the wholesale market was oligopolistic, with some characteristics of a natural monopoly. We also found that barriers to entry are significant that lent credence to the view that wholesale suppliers exert market power.

We draw this conclusion because of the following factors:

- There is significant market concentration;
- The lack of an open transparent price for wholesale gasoline in British Columbia as there is in the PNW, Chicago and New York Harbour;
- There is evidence that the pricing mechanism in the wholesale market is not competitive;
- There is evidence that actual wholesale prices do not track the reported sources of marginal supply;
- Rack pricing is determined by the firms that control the wholesale distribution network. Their customers cannot obtain alternate supply;
- With refineries running at close to economic capacity, there is little incentive to reduce prices, because volumes cannot be increased; and
- If a marketer wanted to import gasoline into the BC market they would need a Primary Terminal facility. There are significant barriers to entry for any new market participant that wished to establish Primary Terminal facilities.

These findings are discussed further in Sections 6.3 and 6.7 of the report.

Retail

There is no evidence to suggest that collusion among the retail operators exists nor is there evidence of cartel behaviour. While there is an opportunity for effective market control, there is no evidence of market power being exercised. On the contrary, it seems clear that service stations keep a close eye on competitors and react quickly to any price changes either up or down in the marketplace. There was no evidence that indicated there were other factors at play that directly impact gasoline and diesel prices.

In spite of Deetken's concentration tests finding low concentration levels, the Panel finds the relationship of most dealers to the refiner-marketer may still have an impact on there being a fully competitive market. Moreover, refiner-marketers have direct control over pricing in 33.6 percent of BC's retail stations which is significantly higher than the average in Canada. Therefore, the Panel finds that while the impact of this cannot be quantified, this relationship increases the opportunity for effective market control.

Direct competition as well as volatility in the retail market was also considered. Gas retailers typically post their prices on large street-side signs and strive to meet or beat their competitors posted rates so as to not lose customers. As a result, prices go up or down at the pumps as retailers compete and each tries to match the price of the others. As such, all gas retailers assert there is a high level of competition at the pumps. Parkland describes this as the one business where one can comparison shop at 60 km/hr.

Volatility and concerns related to it were raised by many consumers who filed public letters of comment. Many consumers expressed frustration with regards to the level of price volatility and the frequency and magnitude of price fluctuations within the day. Navius Research Inc. (Navius) introduced what it described as "Edgeworth Cycles" more commonly known as price cycling. Most gas retailers acknowledged that this type of price model

was an appropriate illustration of what actually occurs within various markets. The Panel found no evidence to suggest that collusion among retail operators exists nor was there evidence of cartel behaviour.

That said, the Panel refrained from suggesting the pricing market in the BC retail market is performing optimally. Prices move up and down in a manner that gives the appearance of a functioning competitive market but it is also possible this pricing behaviour is tacitly choreographed such that there are numerous price changes throughout the day. This scenario does result in excessive daily volatility and may not be in the interests of BC consumers as it causes frustration. While concluding that current practices can be described as competitive, we are unable to conclude that this is in the best interests of consumers. There is a need for a better understanding of customer concerns. A potential option to consider would be some form of regulatory model.

For additional information see Section 6.9.

2.5 Measures used in other jurisdictions in Canada and North America to enhance transparency about how gasoline and diesel prices are determined

2.5.1 Direct Regulation

While gasoline and diesel prices are not federally regulated in Canada, a number of provinces regulate the price of gasoline, diesel and other petroleum products. Provincial price controls were implemented in Prince Edward Island in the 1980's, while price controls were implemented in the Atlantic provinces and Québec in the late 1990's and into the 2000's.[28]

The rationale for implementing price regulation in provinces across Canada is based on a number of reasons such as assurance of a continuous supply of petroleum products, reducing price volatility, stabilizing the price of petroleum products and protecting consumers from uncompetitive wholesale fuel prices.[29]

Where regulation is in place provinces may regulate wholesale margins, minimum and maximum retail prices and transport costs. Prince Edward Island, Nova Scotia and Québec also use minimum price floors to protect small retailers and prevent predatory pricing.[30] Most of these provinces use similar methodology to set prices, which starts with wholesale prices as measured to a nearby benchmark price, such as the New York Harbour.[31] New York Harbour is used in the Atlantic provinces as a benchmark because of its proximity and because it is a highly liquid market with many buyers and sellers. Regulators add wholesale margins, retail margins and taxes to the benchmark price to create the retail price ceiling and floor. The resulting retail prices are typically set weekly and are set province-wide in Prince Edward Island and New Brunswick and regionally/by zone in Newfoundland and Labrador, Nova Scotia and Québec, to account for different transportation costs and retail costs.

Table 12 in Appendix D provides a summary of price regulations currently in place across Canada.

2.5.2 Price Transparency Measures in other Jurisdictions

Subscription services such as OPIS is widely available for most markets across North America.

[28] Exhibit A2-2, p. 3.
[29] Ibid., p. ii.
[30] Ibid.
[31] https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=eer_epmru_pf4_y35ny_dpg&f=w.

Jurisdictions such as California also requires refiners, producers, transporters, marketers, pipeline and terminal operators to report on product volumes, transportation modes and sources on a weekly, monthly and annual basis to its regulator on a confidential basis. Under these reporting requirements, commercially sensitive information and costs are not required to be disclosed.[32]

Similarly, in Hawaii, a now defunct piece of legislation required fuel suppliers and distributors report on petroleum product imports and export volumes and values, product inventories, fuel production, retail and wholesale transactions, and gross margins. Similar to California, this information was protected from disclosure to the public and was only made available to regulators.[33]

Washington state's Office of the Attorney General produces a quarterly gasoline report[34] which uses public information to communicate to consumers the factors that contribute to gasoline prices.[35] Washington State's Department of Transportation also regularly publish a Fuel and Vehicle Trends report, which provides a summary of the latest fuel prices and other oil industry statistics. This report also summarizes articles appearing in popular, business and technical media referring to fuel price, production and supplies as well as vehicle sales and registration trends. [36]

3.0 Context

In the sections above, the Panel has provided direct responses to the specific items that the Inquiry must answer. The balance of this report moves onto the evidence that was collected from the participants in the Inquiry as well as their positions and concerns. The Panel makes our observations, analysis and findings throughout the sections below. The report concludes with our discussions and next steps. The report is structured as follows:

- Section 3 provides additional background about the Inquiry and highlights the public comments received throughout the Inquiry;
- Section 4 reviews the gasoline and diesel market in Canada from crude oil to the fuel products sold at the pump;
- Section 5 provides a supply chain analysis of the gasoline and diesel market with Panel findings;
- Section 6 provides an economic analysis of the gasoline and diesel market with Panel findings; and
- Section 7 concludes with Panel discussion and next steps.

At the outset, two independent consultants: Deetken and Navius were engaged by BCUC staff to prepare independent consultant written reports. Deetken prepared two reports with the first report providing an overview of the BC gasoline and diesel market and the second report providing an analysis into the factors that contributed to the difference in refining and margins between BC and other Canadian markets since 2015.

[32] Exhibit A2-2, p. 12; Oral Workshop Transcript Volume 3, p. 595-606.
[33] Exhibit A2-2, p. 12.
[34] https://www.atg.wa.gov/washington-state-quarterly-gasoline-report#prices.
[35] Exhibit A2-2, p. 13.
[36] https://www.wsdot.wa.gov/sites/default/files/2016/08/17/Economics-Publication-FuelandVehicleTrendsApril2019.pdf.

Navius prepared a report to provide a jurisdictional scan of regulatory oversight and the degree of transparency in gasoline and diesel prices.[37]

3.1 Treatment of confidential and commercially sensitive evidence

As part of this inquiry, interveners were requested to comment on the factors affecting their refining and retail margins, and other information. Companies to a large degree complied and provided information with varying degree of details on a confidential basis due to its sensitive nature.

All documents and evidence submitted by interveners to the BCUC have been added to the evidentiary record and posted on our website. Any confidential information submitted is treated in accordance with the BCUC's Rules of Practice and Procedures (Rules). Part IV of the Rules applies to all requests for confidentiality and confidential documents filed in regard to any and all matters.

Interveners expressed concerns about filing confidential information and sought advance approval of confidential status prior to filing commercially sensitive information. The BCUC issued Orders G-148-19, G-162-19 and G-165-19 to address various concerns around confidentiality raised by interveners.

These orders provided, among other things, advanced approval of confidential status to all documents interveners identified as commercially or competitively sensitive information. The orders also confirmed that the BCUC will keep these documents within the BCUC and only use them for purposes related to the Inquiry and will ensure the information cannot be discerned (e.g., by back-calculation) in the BCUC's final report or other published material. A full list of confidentiality provisions established by BCUC orders is included in Appendix F.

Advanced approval of confidentially is not typically provided by the BCUC in proceedings before it and we made an exception in this Inquiry in order to obtain the information in the time required. The only other option would have been to seek a court order to produce the information, which may have resulted in the BCUC not obtaining the information within the time allotted for this inquiry.

There was a significant amount of confidential evidence submitted and the Panel considered this evidence. However, in many cases it was not possible to test this evidence by sharing it with other parties in the Inquiry so we placed limited weight on it.

3.2 Letters of Comment

The BCUC received 73 letters of comment with respect to the Inquiry. Of these, 64 were from residents from various parts of the province of BC while the remaining were from municipal government or business entities. The letters address a number of topics related to the Inquiry including observations of the marketplace, issues related to the price of gasoline and the impact on the cost of living. From these letters, five general themes emerged:

- Concerns about price gouging;
- Price fluctuations and volatility;
- Collusion and price fixing;

[37] The independent consultant reports were filed as Exhibits A2-1, A2-1-1, and A2-2.

- Price variability within a region or in areas adjacent to Metro Vancouver; and
- Need for regulation.

In addition, there were a number of concerns raised with the increase in prices and affordability of this necessity against the backdrop of coping with the high cost of living.

Price Gouging

The greatest level of concern among respondents was with respect to alleged price gouging with a number of them pointing to changes to the price at the pump in comparison to the cost of oil. Two excerpts from these follow:

> As a Canadian-born, long time resident of British Columbia, I am tired of constantly being gouged at the gas pumps. A few years ago, the price of oil was $150/barrel, gas was about $1.50/litre. Now, oil is less than $60/barrel, and gas is $1.70/litre. If that isn't greed & gouging by the oil companies, I don't know what is. Taxes are high on gasoline in Vancouver, but they haven't gone up that much to justify these insane gas prices. Oil companies need to be put in check.[38]

And

> There is no reasonable explanation as to why our pump prices are the way they are in BC even when crude prices were above 150.00 a barrel the price per litre was no where near what they are now. Price gouging is the only answer by oil refiners.[39]

These excerpts were common within the letters and point to a concern of consumers with the delinking of the price at the pump from the cost of a barrel of oil.

Concerns with Price Volatility

Fluctuations in the price at the pump and volatility were also common themes. A number of these letters reflect gasoline and diesel customers frustration with the frequency of gas price fluctuations over a week or even a day. Representative of such comments is the following excerpt:

> How can the price of gas at a pump swing by 10+ cents in an hour multiple times a day? On Wednesday May 22, I drove by a gas station in Metro Vancouver, at 6:50am gas was $1.59, later I drove by the same station at 8:30am and gas was $1.71, Later on the drive home at 7:30pm the same station was back down to $1.63. How did the price of the gas in their tanks change that much, that quickly?[40]

And in comparison to Washington state:

> Increasingly, in recent years in BC, when there are shortages of fuel in BC and Washington State, our prices soar significantly more than in Washington State. Prices might go up the equivalent of a few cents per litre in Washington State, but our prices might soar 8 to 16 cents a litre in a single day, followed by up to 10 cents per litre once or twice within the next several weeks, as happened this year. Going from $1.25 to $1.61/L within several weeks earlier in 2019 in Victoria

[38] Exhibit E-4.
[39] Exhibit E-3.
[40] Exhibit E-1.

> was the most I have seen in such a short time. Prices did not soar correspondingly in Washington State when a pipeline's capacity was greatly reduced in WA and when a couple of refineries at Cherry Point, WA were shut down.[41]

The first of these statements describes what appears to be a common occurrence with price volatility and raises the question of whether there is any relationship between the cost of gasoline in the service station tank and the pump price. This is a common theme as customers have great difficulty understanding how prices are set at the pump. The second statement captures this consumers observations with regard to the Washington market in comparison to what they see in Victoria during a period where they believed there was a fuel shortage. Both of these point to a growing exasperation among consumers.

Collusion and Price Fixing

The idea of collusion among the operators and price fixing were also common comments made by customers. An example of this is the following:

> …I believe that there is wide spread price fixing at the wholesale and retail levels demonstrated by the well coordinate manipulation of prices at the pumps. Fluctuating prices change at every retail station within a radius of many miles almost at the same time. If this is not collusion I don't know what else you would call it. As soon as a refinery is shutdown, retail prices automatically go up regardless of the amount of fuel in storage. BC has always had higher fuel prices than anywhere else in Canada, usually not explained by the cost of product transportation. Nothing will change in fuel pricing until there are anti collusion charges brought against the industry.[42]

This particular excerpt exemplifies the feeling among some customers who believe there is widespread price fixing that is coordinated among suppliers. Again, this indicates the growing frustration among consumers.

Price variability among regions or in areas adjacent to Metro Vancouver

There were numerous examples of the frustration felt by consumers with respect to pricing within regions. An example of this follows:

> Please look into the price fixing by oil companies in Vernon BC. The prices are exactly the same 99% of the time in this city. If one changes, the others are all the same within a matter of hours. Another thing is that the gas prices in Vernon are sometimes as high as .10/L higher than in Kamloops BC (117km away) or Kelowna which is only 50 km away and stay that way for weeks. In the other cities the prices go up and down, but not Vernon. The lowest prices today (June 3) in Kamloops are $126.9, in Kelowna $128.9 and in Vernon (at all stations) $136.9. Even in Vancouver with the extra taxes the lowest price is $138.9![43]

This consumer expresses concern over what is seen as variability of pricing in cities that are adjacent to one another. Vancouver Island consumers have also raised concerns of this nature. Similarly, concerns have been raised by consumers who live outside Metro Vancouver but prices don't seem to vary. An example of this follows:

[41] Exhibit E-40.
[42] Exhibit E-36.
[43] Exhibit E-38.

> I am a resident of Mission, which lies beyond the Metro Vancouver area, where gas prices SHOULD be approximately 17 cents lower than in areas where the transit tax is applied… the gas price in Mission earlier this week was 1.47.9 a litre, when the price in Vancouver was 1.49.9. That's a two cent difference, when it should've been 17.[44]

Consumers residing in the Sea to Sky corridor have similar comments as they see the impact of the Metro Vancouver transit tax still being reflected in the price of gasoline.

Need for Regulation

A number of consumers called for regulation as is indicated by the following comment:

> I would like to see something like New Brunswick's gas board, which sets the maximum price for the province on a weekly basis. This seems to be a much more responsive approach to the fluctuating price of fuel and prevents price gouging for those who live in smaller communities.[45]

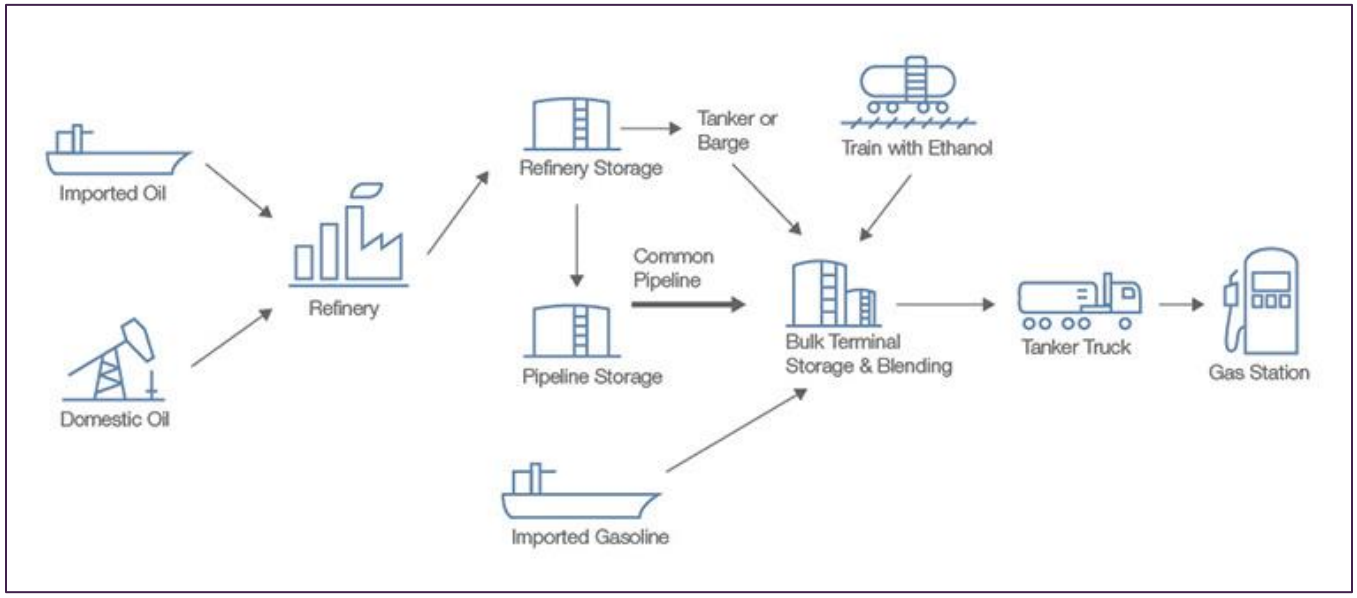
While one might take issue with the facts being presented and any interpretation of their meaning, it does not change the fact that they point to a growing frustration among BC consumers with what they see at the pump of their local service station.

4.0 Overview of Canada's Gasoline and Diesel Market

Gasoline and diesel are RPPs produced from crude oil. After crude oil is extracted, it is sent to a refinery where it is refined into gasoline, distillates such as diesel fuel and heating oil, jet fuel, and other products.[46] Refined products are transported to storage terminals where they are stored and blended with brand-specific performance and efficiency enhancing additives, as well as ethanol in accordance with government regulations. From terminals, gasoline and diesel are transported to gas stations and cardlocks.[47] The key components of the gasoline and diesel supply chain are illustrated in the following diagram[48]:

[44] Exhibit E-28.
[45] Exhibit E-12.
[46] Exhibit A2-3, PDF pp. 5-10; https://www.eia.gov/energyexplained/index.php?page=oil_home.
[47] Exhibit C4-3, PDF p. 17.
[48] https://www.eia.gov/todayinenergy/detail.php?id=9811.

Figure 8: Gasoline and Diesel Supply Chain



Factors affecting fuel prices include crude oil prices, wholesale prices, retail markup and taxes. As a commodity that trades in world markets, crude oil prices fluctuate depending on economic conditions, the quality of crude and supply and demand. Gasoline is also a commodity and its price fluctuates with supply and demand.

In the following subsections, the Panel provides an overview of some of the key factors impacting the Canadian gasoline and diesel market:

1. Crude oil prices and characteristics;
2. Market integration between Canada and United States;
3. The wholesale market;
4. Fuel content regulations; and
5. The changing landscape in the retail market.

4.1 Crude Oil Prices and Characteristics

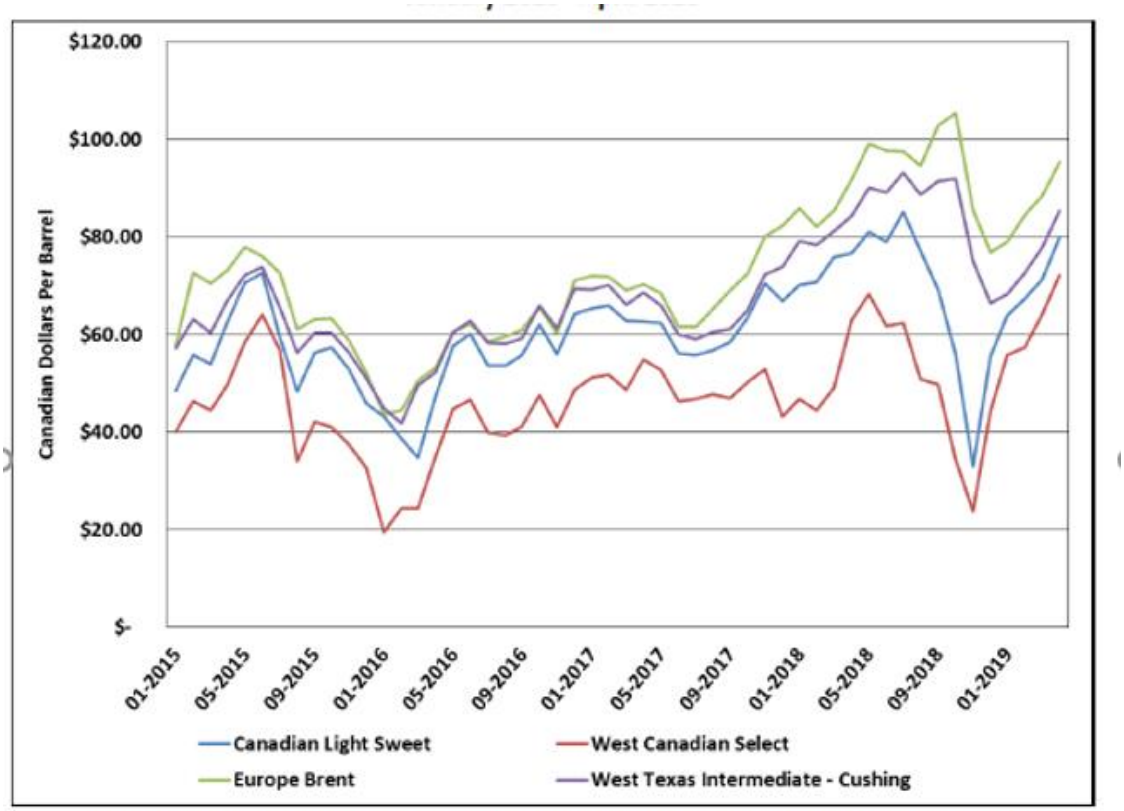
Crude prices are largely determined by international crude markets and commodity exchanges. The cost of crude purchased by refiners is generally based on an agreed upon (contract) price that is established against exchange-based crude benchmark prices. This price can vary by the quality of crude (e.g. light vs heavy crudes) and the cost of transporting the crude from the seller's point of storage to the refinery.[49]

Crude oil can be termed light or heavy and sweet or sour, depending on its American Petroleum Institute (API) gravity and sulfur content. Generally speaking, lighter, sweeter crudes will demand higher prices than heavier, more sour crudes due to their higher yields of transportation fuels and lower amounts of sulfur that must be

[49] Exhibit E-42, p. 21.

processed out.[50] Figure 9 shows pricing between January, 2015 and April 2019 for four "benchmark" crude oils: West Texas Intermediate (WTI), Brent, Edmonton Par (light sweet), and Western Canadian Select.[51]

Figure 9: Average Monthly Prices for Select Crude Oil Benchmarks January 2015 – April 2019



Note: Natural Resources Canada began reporting Canadian Light Sweet (Edmonton) as Canadian Mixed Sweet (Edmonton) in August 2018.

Sources: "Oil Pricing," Natural Resources Canada, available at https://www.nrcan.gc.ca/energy/energy-sources-distribution/crude-oil/oil-pricing/18087; "Petroleum & Other Liquids - Spot Prices," U.S. Energy Information Administration, available at https://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm; "Canada / U.S. Foreign Exchange Rate," FRED Economic Research, available at https://fred.stlouisfed.org/series/DEXCAUS.

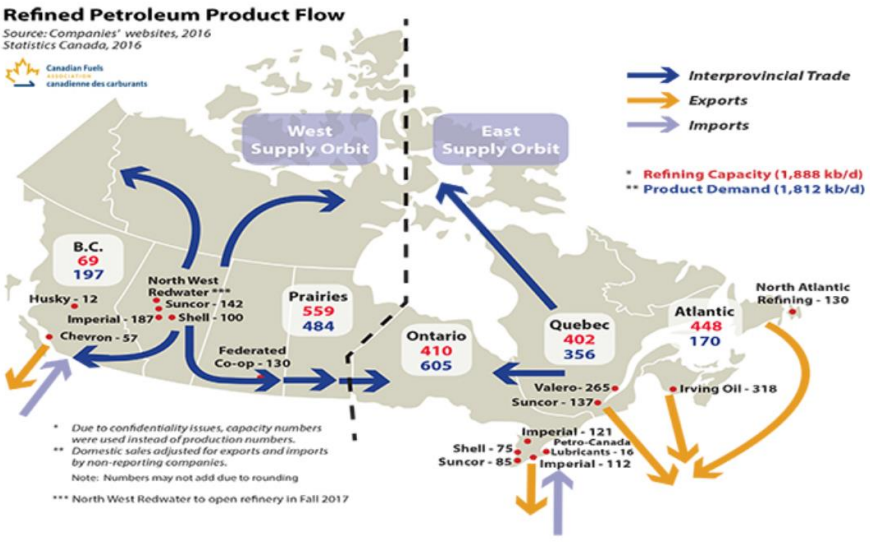
Of these, Brent crude sourced from the North Sea and WTI crude from the Southwestern United States command the highest prices due to their lower API gravity and sulphur content. Canadian crude typically has higher API gravity levels and sulphur content and therefore commands a lower price.

4.2 Market Integration between Canada and the United States

In Canada, the movement of petroleum products generally occurs within two regional areas of supply, west and east. These supply "orbits" are generally defined by transportation infrastructure or more specifically, pipelines. Characteristically, there is a high level of product movement within a region but little refined products shipped inter-regionally. Figure 10 shows the geographic range of these supply regions, which encompasses Western, Central and Atlantic Canada as well as the flow of product interprovincially and to and from the United States.[52]

[50] Exhibit C5-2, p. 12.
[51] Ibid., pp. 12-14.
[52] https://www.kentgroupltd.com/wp-content/uploads/2017/12/Report-OverviewofCanadasLogisticalInfrastructure.pdf, PDF p. 5.

Figure 10: Flow of Petroleum Product in Canada



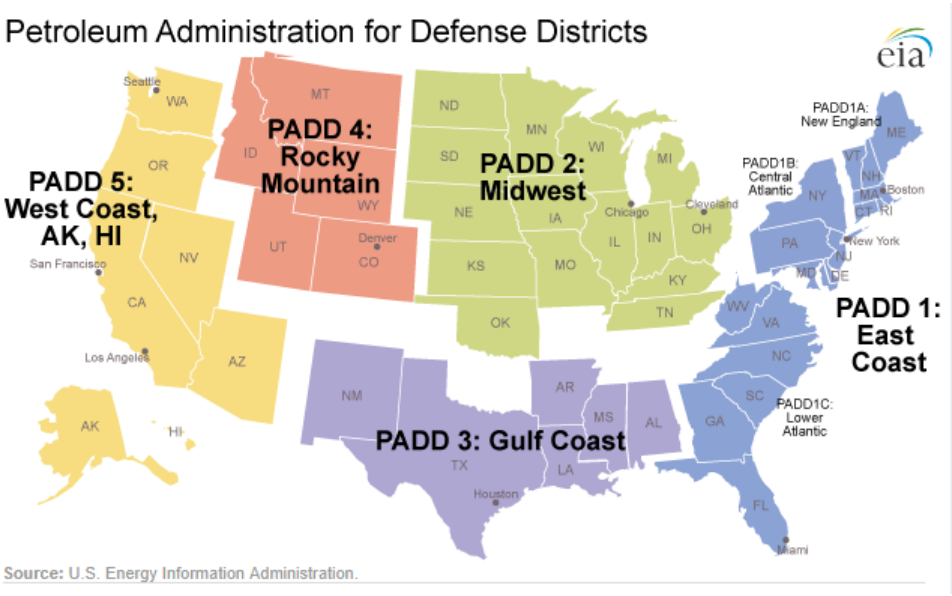
Source: Canadian Fuels Association

Canada is both a significant exporter as well as an importer of crude oil. Of interest is that the West orbit is responsible for 94.6 percent of Canada's exports while the East orbit is highly dependent on imports with 86.7 percent of its crude oil being imported. As a consequence, the Western part of Canada is largely dependent upon its own crude oil for its supply of refined products, some of which comes from crude which has been shipped to the United States and refined there. In 2017, Canada was the fourth largest crude oil exporter in the world, exporting 3.32 million b/d, with 99.1 percent of that going to the United States.[53] As noted the evidence shows that some of this is returned to Canada (specifically BC) as refined product. [54]

In the United States, the government has aggregated the 50 States and the District of Columbia into five districts: PADD 1 is the East Coast, PADD 2 the Midwest, PADD 3 the Gulf Coast, PADD 4 the Rocky Mountain Region and PADD 5 the West Coast. The PADDs allow data users to analyze patterns of crude oil and petroleum product movements throughout the United States.[55]

[53] Exhibit A2-3, PDF p. 15; Exhibit A2-4, pp. 6-7.
[54] Exhibit A2-6, pp. 35-37.
[55] https://www.eia.gov/todayinenergy/detail.php?id=4890.

Figure 11: U.S. Petroleum Administration for Defence Districts



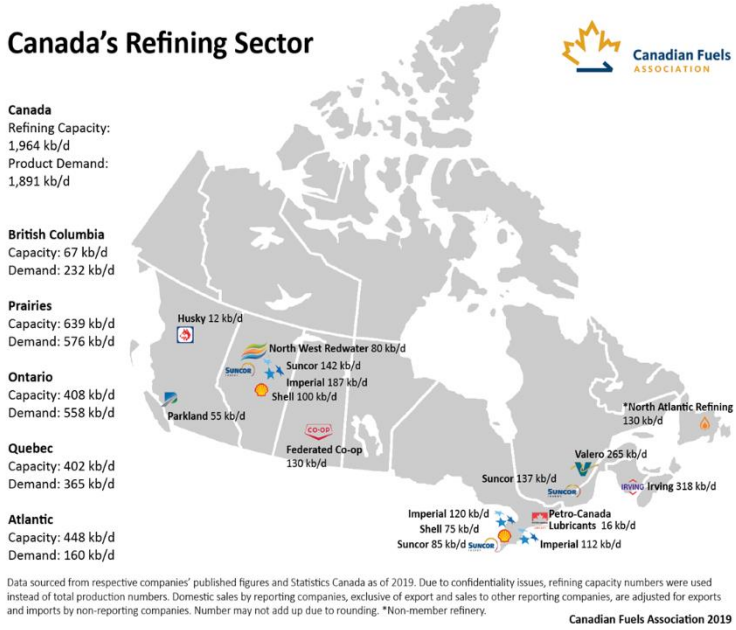
Canadian crude is distributed to many of these PADDs through pipeline, rail and marine off the west coast of BC.

4.3 The Wholesale Market

Refineries

There are 14 gasoline-producing refineries in Canada: six in Western Canada, four in Ontario, two in Québec and two in the Atlantic Provinces. Although production varies by refinery, gasoline comprises the largest portion of refinery output at 36 percent, on average.[56]

Figure 12: Overview of Canadian Refining Sector



[56] Exhibit C4-3, PDF p. 16.

Refineries in Alberta and Saskatchewan have a combined nameplate capacity of 616,000 b/d, though refineries rarely run at full nameplate capacity. Western Canadian refineries produce refined products for domestic use and, to a lesser extent, export to the U.S. volumes of crude oil that are surplus to the needs of refineries in Western Canada are transported to Eastern Canada or exported to refineries in the U.S. or overseas.[57]

The refining capacity generally meets product demand in Ontario, Québec and the Prairies while Atlantic's refining capacity is roughly triple the region's product demand. Refining capacity in BC, 67,000 b/d, is substantially less than all other areas of Canada and satisfies about 30 percent of demand for refined products. As a result, BC must rely on other areas in Canada or the U.S. for its supply of refined product.[58]

Canadian refineries operated at roughly 82 percent of total production capacity in 2016. Regionally, Atlantic Canada utilization rates were around 85 percent of total capacity, while both Western and Central Canadian refineries produced at roughly 80 percent of their capacity. Utilization rates varied significantly by facility, with some refiners producing above 95 percent of their capacity and others well below an 80 percent rate of utilization.[59] In 2017, Canadian refineries operated at 84 percent of their capacity.[60]

Important to consider is that planned and unplanned maintenance and outages limit a refinery from running at its full capacity.[61] Table 3 shows the description of each type of event, and also their frequency and duration: [62]

Table 3: Impacts related to Refinery Shutdowns and turnarounds

	Description	Frequency	Planning & Preparation	Duration
Planned Turnarounds	Major maintenance or overhaul	Every 3 – 5 years	1 – 2 years	20 – 60 days
Planned Shutdowns	Mini-turnarounds	Bridge gap between turnaround intervals	2 – 6 months	5 – 15 days
Unplanned Shutdowns	Unexpected but not emergencies		Possibly 3 – 4 weeks	
Emergency Shutdowns	Process unit or entire refinery must be shutdown	Fire, loss of power, fire etc.	No warning	

[57] Exhibit A2-4, pp. 6-7; https://www.canadianfuels.ca/The-Fuels-Industry/Fuel-Production/.
[58] Oral Workshop Transcript Volume 1, pp. 147, 215-216.
[59] https://www.kentgroupltd.com/wp-content/uploads/2017/12/Report-OverviewofCanadasLogisticalInfrastructure.pdf, PDF p. 6.
[60] Exhibit C8-2, p. 4.
[61] Exhibit C5-2, Parkland Final Argument, p. 12; Exhibit C8-2, p. 4.
[62] Exhibit A2-3, PDF p. 28.

Transportation

Gasoline and other RPPs are transported from refineries to storage terminals near cities and towns. Terminals serve as receipt and distribution points for domestic and imported gasoline and are the delivery location for which rack prices are posted.[63] A web of pipelines, railways, shipping routes, and highways is used to distribute gasoline and diesel from refineries in the West orbit to terminals between Vancouver Island and Thunder Bay with similar webs of infrastructure distributing gasoline from refineries in the East orbit. Transporting refined products by trucks and rail is typically more expensive than pipelines. However, for shorter haul deliveries to the BC interior or when there are constraints on pipeline capacity, they are an available option.[64]

Terminals

Distribution terminals receive petroleum products into their inventories from refineries via pipeline, rail car, marine ship/barge and then discharge the products onto trucks, ships, or rail cars to be delivered to end-use customers, or to be re-distributed to secondary storage facilities. There are two types of facilities that perform a storage and distribution role for petroleum products in Canada:

- Primary terminals, which handle larger volumes, blend various additives into the refined product and are typically the first point of storage and distribution after the refinery; and
- Bulk plants, which handle smaller volumes, and typically receive product from a primary terminal versus a refinery.[65]

Primary terminals tend to be large facilities with considerable storage capacity and product throughput capacity and are typically located close to more populated areas with fuel transportation capability. Conversely, less-populated areas are often served by secondary distribution facilities or bulk terminals. Oil Companies account for the ownership of all but a few independent Canadian Primary Terminals. These independent terminal operators operate their facilities as a service for hire, rather than as an integrated part of an existing supply chain.

4.4 Fuel Content Regulations

North American gasoline and diesel producers and importers have been required to mix renewable fuels with gasoline and diesel as a means of reducing the use of petroleum products. In addition to these minimum renewable fuel mixing requirements, several other additional measures have been put in place in BC and along the Pacific Coast of the United States. These regulations apply to fuel before it arrives at the retail station and the mixing of fuels generally occurs at the terminal level. Thus, any costs associated with regulatory requirements would be observed in the wholesale price.[66]

In OIC No. 254 approved and ordered on May 21, 2019, section 3(1)(2) states that the BCUC may not inquire into the effects of Provincial enactments or policy on gasoline and diesel prices in British Columbia. The Panel acknowledges this section of the OIC, however, we received evidence from participants regarding this as a factor to explain why the wholesale market in BC is different than other jurisdictions. This is further discussed in section 6.6.4 of the report. As we will discuss later in section 6.7.1 of the report to answer the question as to why the wholesale price gap has widened between Vancouver and the Pacific Northwest reference price, it is

[63] Exhibit C4-3, PDF p. 17.
[64] Exhibit C5-2, PDF p. 32.
[65] https://www.kentgroupltd.com/wp-content/uploads/2017/12/Report-OverviewofCanadasLogisticalInfrastructure.pdf, PDF p. 14.
[66] Exhibit A2-1-1, p. 50.

important to have some context as to how fuel content regulations differ between BC, Canada, and other jurisdictions that affect the BC market.

Renewable Fuels Regulations in Canada

Renewable Fuels Regulations in Canada that came into effect in 2010[67] require fuel producers and importers to have an average renewable fuel content of at least 5 percent based on the volume of gasoline produced and at least 2 percent based on the volume of diesel fuel and heating distillate oil produced or imported into Canada. Compliance units can be traded among participants.[68]

Low Carbon Fuel Requirements Regulation in BC

BC created additional carbon reduction regulation in 2010, called the *Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act* and the *Renewable and Low Carbon Fuel Requirements Regulation*, the same year that the federal Renewable Fuels Regulations was put in place. This act and regulation is collectively known as BC's Renewable and Low Carbon Fuel Standard (LCFS). The LCFS regulations established a Part 2 and Part 3 for fuel suppliers.

Part 2 of the LCFS has the same fuel mixing requirement for gasoline as required by the Federal Government (i.e. 5 percent). However, in the diesel pool, BC's renewable requirement was 3 percent in 2010 and 4 percent thereafter, compared to the Federal requirement of 2 percent.[69] Fuel suppliers have the flexibility to vary their blend percentages and can choose where in the province they supply renewable fuel blends, as long as they meet the provincial annual average requirement for renewable fuel content.[70]

Part 3 of the LCFS establishes low carbon fuel requirements for fuels sold in BC in that fuel suppliers must progressively decrease the average carbon intensity of their fuels to achieve a 10 percent reduction in 2020 relative to 2010. This part of BC's LCFS is particularly unique when compared to the rest of Canada. It specifies a reduction in the lifecycle emissions of fuels based on a schedule of emissions intensity for both diesel and gasoline. To be in compliance with Part 3, fuel suppliers may choose to:

- supply more low carbon fuels;
- acquire credits through a Part 3 Agreement; and
- trade credits with other suppliers.[71]

Deetken's Phase 2 report indicates that during the 2013-2017 period, regulated entities achieved compliance through several methods, including carrying forward credits which they had begun to accrue in 2013, adding additional renewable fuel content to retail mixes, and purchasing compliance credits. During the 2013-2016 periods, more compliance credits were awarded than debits. In other words, it was not until 2017 that all regulated entities jointly began to require a draw-down of past year accumulated credits in order to become compliant.[72]

[67] https://laws-lois.justice.gc.ca/eng/regulations/SOR-2010-189/FullText.html.
[68] Exhibit A2-3, PDF p. 161; Exhibit C5-2, Appendix A, p. 5.
[69] Exhibit A2-1-1, p. 51.
[70] https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/transportation-energies/renewable-low-carbon-fuels.
[71] Ibid.
[72] Exhibit A2-1-1, p. 52.

Alternative Fuel Regulations Among Provinces

Other than the renewable fuels regulation in Canada, provinces like Ontario and Alberta have also instituted some form of Alternative Fuel Standards (AFS) requirement since at least the late 2000s. In addition, several U.S. states have AFS requirements (Hawaii, Washington, Oregon, Minnesota, Missouri, Louisiana and Pennsylvania).[73]

Table 4: Provincial AFS Requirements for Diesel and Gasoline Fuel

Province	Provincial Regulation	Regulation Effective Date
Alberta	Gasoline: 5% Diesel: 2%	2011
British Columbia	Gasoline: 5% Diesel: 4%	2010 & 2011
Manitoba	Gasoline: 8.5% Diesel: 2%	2008 & 2009
Newfoundland	No Regulation	n/a
New Brunswick	No Regulation	n/a
Nova Scotia	No Regulation	n/a
Ontario	Gasoline: 5% Diesel: 4%	2007 & 2014
Prince Edward Island	No Regulation	n/a
Quebec	No Regulation	n/a
Saskatchewan	Gasoline: 7.5% Diesel: 2%	2007 & 2012

BC's LCFS policy – a 10 percent reduction by 2020 compared to 2010 - is currently the only one of its kind in effect in Canada, although the federal government is currently considering a similar national policy. At this point, the federal government has conducted a cost-benefit analysis of the policy and is currently in the process of collecting consultations with regard to the design of the policy. BC, however, is not the only jurisdiction to have an LCFS in place in North America; California and Oregon have similar policies.[74]

4.5 The Changing Landscape in the Retail Market

As of December 31, 2018, there were 11,929 retail gasoline stations operating in Canada, or 3.2 outlets for every 10,000 persons (Table 5). BC at 2.74 outlets per 10,000 has the second lowest concentration after Ontario. In total there are 88 different brands of gas documented with the refined products sold by these brands originating largely from 14 refineries in Canada, operated by nine refining organizations (seven of which are integrated refiner marketers). Nearly 65 percent of all sites in Canada carry a brand representing these refining organizations.[75]

[73] Exhibit C5-2, PDF pp. 47-49.
[74] Ibid., PDF pp. 50-51.
[75] https://www.bcuc.com/Documents/Proceedings/2019/DOC_54304_A2-3-Kent-Presentation-to-BCUC.pdf, PDF p. 183.

Table 5: 2018 Retail Site Demographics

	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	YT	NT	CAN
Population (000's)	4,992	4,307	1,162	1,352	14,323	8,390	771	960	153	525	40	45	37,059
Retail Outlet Population	1,368	1,522	687	594	3,257	3,065	440	399	84	408	56	49	11,929
Outlets per 10,000 Population	2.74	3.53	5.91	4.39	2.27	3.65	5.71	4.16	5.48	7.77	13.84	11.00	3.22
Rank (lowest=1)	2	3	9	6	1	4	8	5	7	10	12	11	

.Source: Statistics Canada (Table: 17-10-0005-01), Kent Group Ltd (Outlet counts)

There are multiple business models for a retail gas station. For example, the ownership and operating structure may differ for the gas station and any ancillary services (e.g. convenient store, car wash, repair shop, restaurants, etc.). The pump price can also be controlled by different parties depending on the retail business model. These are outlined in Table 6.

Table 6: Retail Modes[76]

	CONTROLLED		NON-CONTROLLED	
	Company Operated	Commission Operator	Lessee	Independent
Dealer compensation	Salaried employee	Commission based on volume	Pump price less dealer wholesale price	Pump price less dealer wholesale price
Ownership of site	Brand marketer	Brand marketer	Brand marketer	Dealer
Ownership of petroleum inventory	Brand marketer	Brand marketer	Dealer	Dealer
Pump price control	Brand marketer	Brand marketer	Dealer	Dealer
Operation of ancillary services	Typically marketer	Typically dealer	Typically dealer	Dealer

Over the last 30 years, the number of retail outlets have declined. However, the average outlet throughput in Canada has increased over the same period. While there is a decline in refiner-marketer sites, an increased presence of non-traditional fuel marketers has emerged (e.g. Costco, 7-Eleven, Circle K Stores Inc., Canadian Tire Corporation, Limited and Sobeys Inc.).[77]

Within this Inquiry it has been asserted that the retail margins on gasoline and diesel are typically very low. To compensate for this, retailers often add higher margin services such as a car wash or convenience store to

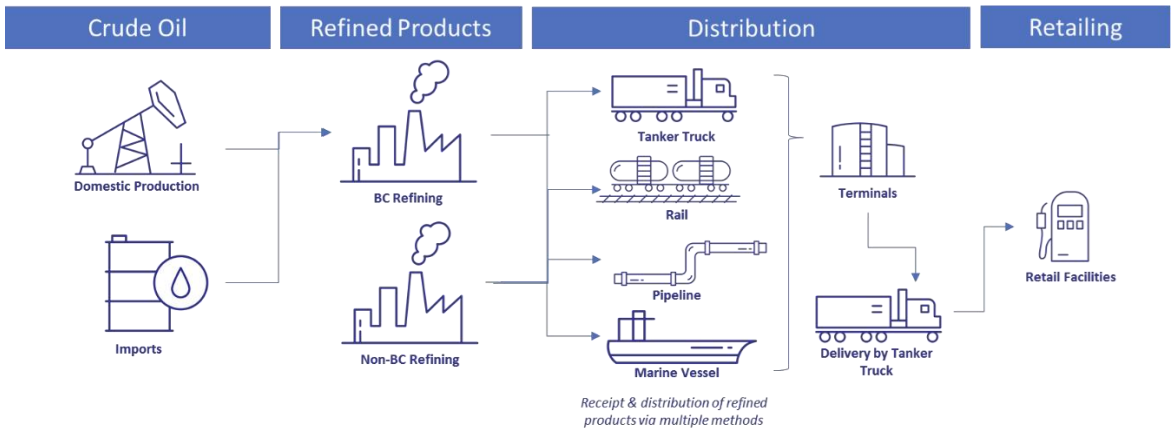
[76] Exhibit A2-3, PDF p. 93.
[77] Ibid., PDF pp. 99-102.

increase their overall margin because margins earned on convenience store (c-store) sales are considerably higher than the margins earned on fuel sales. As an example, Alimentation Couche-Tard Inc.'s total 2018 fuel sales at its Canadian retail locations were more than double its merchandise and services sales while the gross profit on fuel sales were 40 percent lower than for merchandise and services. The Panel heard from retailers how important it is to be price competitive on fuel so as to attract customers. For example, Costco uses low-priced fuel sales to draw customers that then purchase other products and to build customer loyalty.[78] Examples such as these underline the importance of relying on fuel sales as a means of promoting the sales of other higher margin non-fuel products.

5.0 Supply Chain Analysis and Findings

Key to a broader understanding of BC's gasoline and diesel markets and issues related to it is understanding of the key components of the supply chain and how they interact.

Figure 13: Supply Chain Components[79]

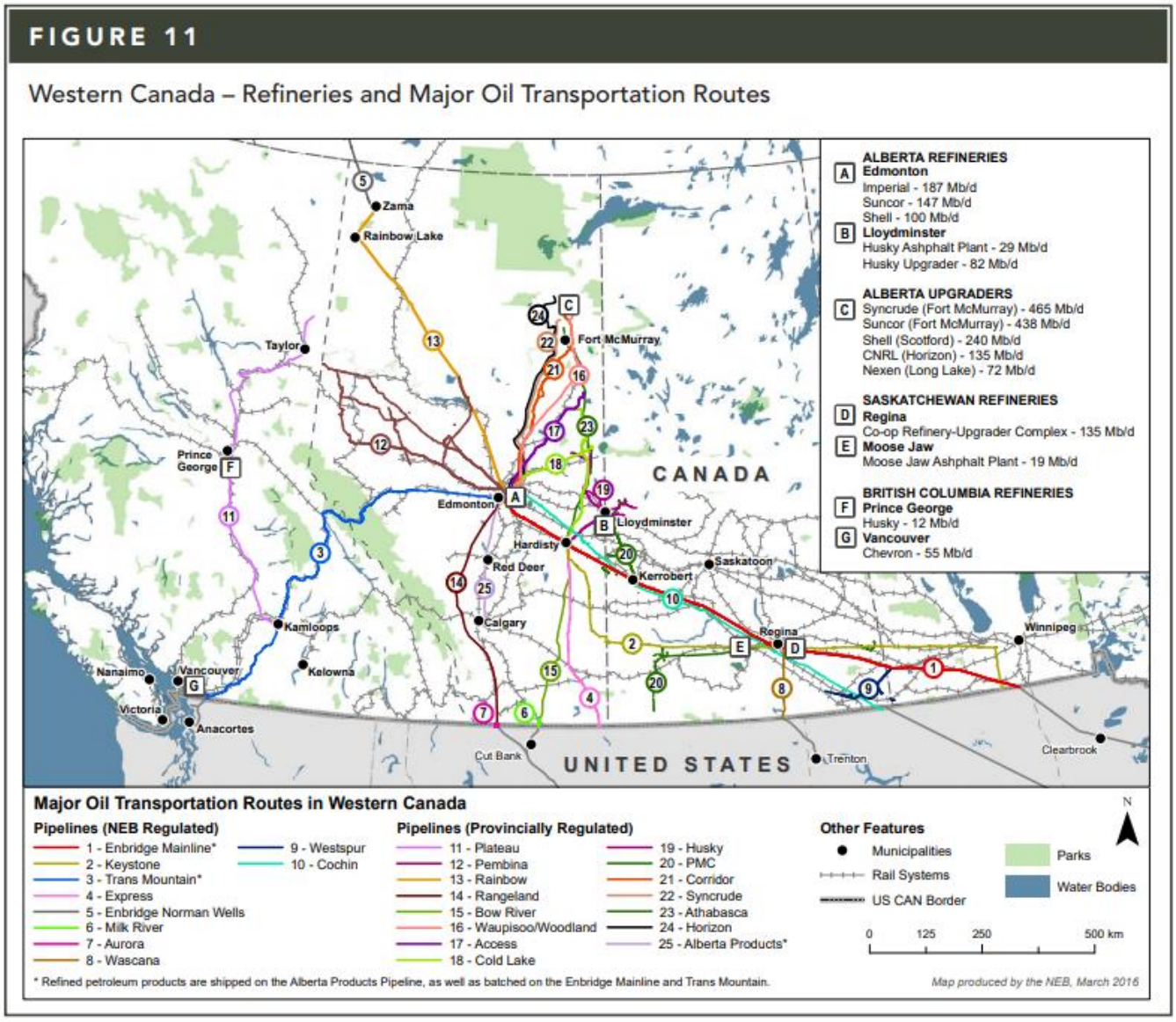


This section provides the reader an understanding of BC's supply chain components and will detail issues related to refining, crude oil sources, transportation of crude oil and refined product, distribution to sellers through the terminal process and physical and operational attributes of the retail distribution system.

Figure 14 details the location and capacity of Western Canadian refineries and major oil transportation rail and pipeline routes.

[78] Exhibit C5-2, p. 1; PDF, pp. 104-105.
[79] Exhibit A2-1, p. 8.

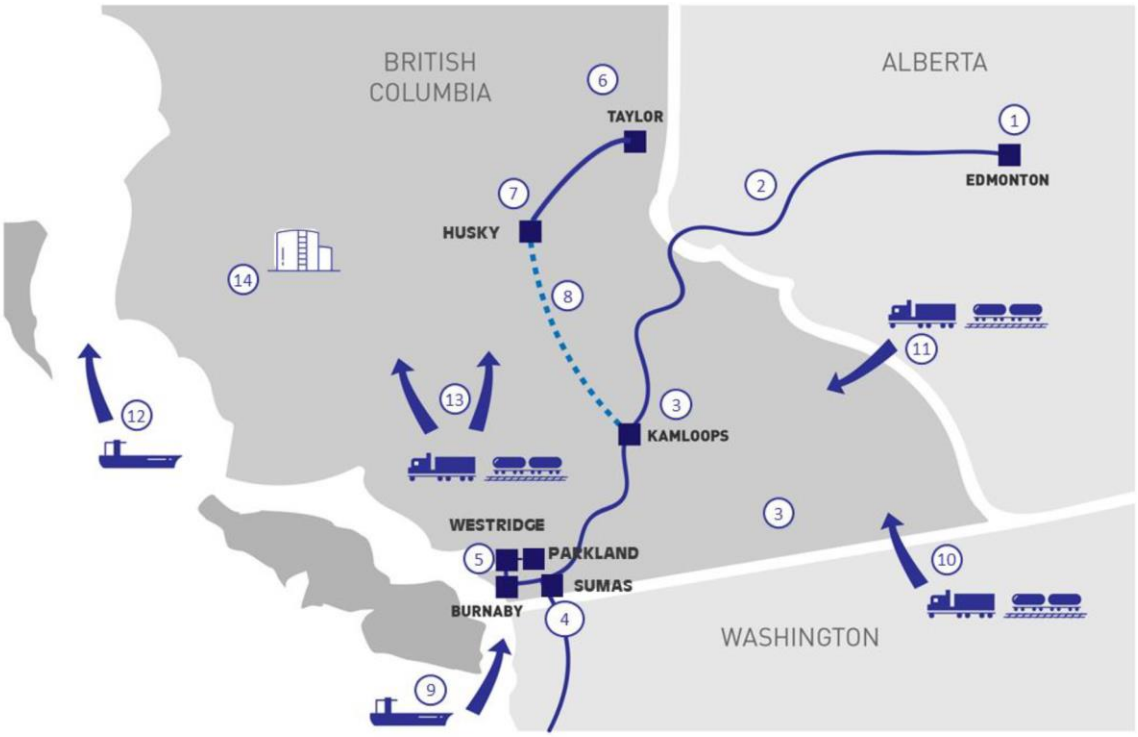
Figure 14: Western Canada – Refineries and Major Oil Transportation Routes



In addition, Figure 15 provides an illustrative view of refined product access and distribution in BC.

Figure 15: Illustrative View of Refined Product Access & Distribution in BC [80]

Image: Illustrative View of Refined Product Access & Distribution in BC



Map Details on BC's Refined Product Access & Distribution	
1	**Alberta Production:** Crude and refined product production in Edmonton and surrounding areas is gathered by pipelines and fed into the Trans Mountain Pipeline (TMPL) (#2 above).
2	**Trans Mountain Pipeline:** The Trans Mountain Pipeline (TMPL) transports heavy and light crude as well as refined products from Alberta to BC.
3	**Kamloops Terminal:** The TMPL connects in Kamloops where crude can be onloaded from the Pembina Pipeline (#8 above) and refined products can be offloaded.
4	**Sumas Terminal:** The TMPL offloads crude product at Sumas for export through the Puget Sound pipeline.
5	Burnaby includes three points of interest: i) **Parkland Refinery:** With capacity of 55 mbbl/d, the Parkland Refinery receives light crude from the TMPL for processing into refined products. ii) **Westridge Terminal:** This terminal receives crude products from the TMPL for marine export. iii) **Burnaby Terminal:** There is a storage terminal in Burnaby which receives refined product from the TMPL for circulation to the lower mainland. There is also a pipeline from Burnaby to the Vancouver International Airport that transports jet fuel.

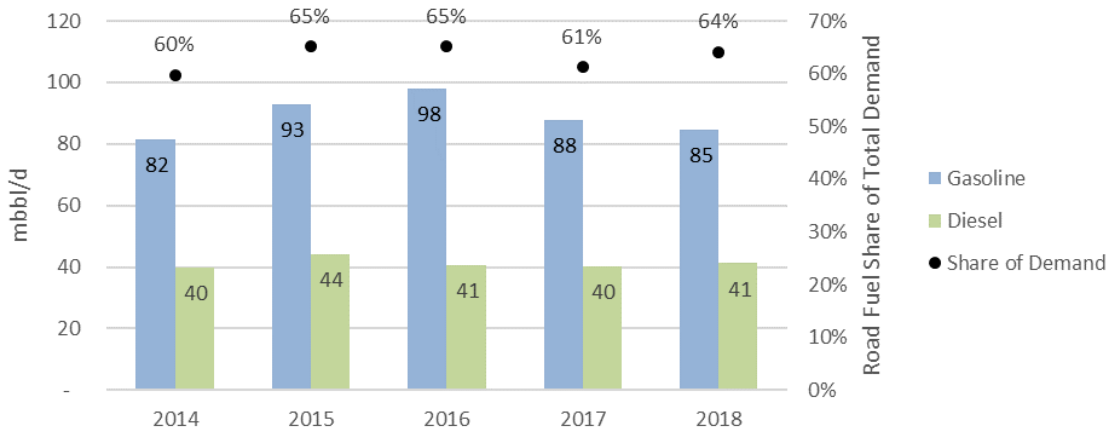
[80] Exhibit A2-1, pp. 7-8.

6	**Taylor Region Production:** Light crude oil is produced in the Taylor BC region and shipped via pipeline to the Husky Refinery (#7 above)
7	**Husky Refinery:** With capacity of 12 thousand barrels/day, the Husky Refinery is supplied by domestically produced crude oil and supplies refined product to Prince George and the surrounding areas.
8	**Pembina Pipeline:** The Pembina pipeline is a crude pipeline connecting Prince George and Kamloops. Data on throughput of this pipeline is not available.
9	**Marine Imports:** The Port of Vancouver receives refined products from international suppliers.
10/11	**Land Imports:** Rail and tanker truck imports of refined products are shipped in from Alberta and the United States.
12	**Marine Distribution:** Refined product is distributed to cities along the coast and on Vancouver Island via marine transport.
13	**Land Distribution:** Refined products are shipped to Bulk Terminals throughout BC
14	**Primary Terminals:** Fifteen Primary Terminals exist in BC. These terminals receive refined products for further distribution to less densely populated regions mostly via tanker truck.

5.1 Market Demand for Refined Products

Road-use fuels as a category is responsible for more than 60 percent of BC's demand for refined petroleum products. Figure 16 graphically outlines the number of barrels per day of gasoline and diesel that is consumed in the province. The largest part of demand is for gasoline which is offered in regular, mid-grade and premium grades.

Figure 16: BC Demand for Road Use Fuels



In 2018, gasoline accounted for sales of 85,000 b/d and demand for this product group has been relatively steady since 2014. The demand for single grade diesel has been much lower with consumption in the 40,000 b/d range over the same period. Demand for diesel has been very stable over the period being examined.[81]

[81] Exhibit A2-1, pp.4-5.

Generally speaking, gasoline demand is higher during summer months while diesel demand is higher during winter months. Because of this surplus, gasoline exports tend to be much higher over the winter months and diesel exports higher over the summer months.[82]

Diesel sales are commonly transacted through the cardlock system. As described by Parkland, this business is done on a contract basis with what it describes as being technically wholesale or commercial customers.[83] Based on description we assume that these contracts are negotiated based on volume and offer some level of discount on the normal retail price of this product.

5.2 Refineries

BC refineries are capable of producing approximately 30 percent of the province's gasoline needs and the remaining 70 percent is imported. The principle sources relied upon for imported gasoline and diesel supply have historically been Edmonton and the PNW (Washington state refineries). The following is a brief overview and summary of refinery capacity in each of these locations.

5.2.1 BC Refineries

There are two refineries in BC, one located in Prince George and owned by Husky Energy with a capacity of 12,000 b/d and one located on the Burrard Inlet in Burnaby owned by Parkland with a capacity of 55,000 b/d. These are comparatively small refineries when compared to other refineries in Alberta/Saskatchewan, which have substantially higher capacity.[84]

Both refineries process light crude. Husky Energy sources conventional crude through the Pembina Pipeline connecting Prince George with Taylor, in northern BC. Its refinery produces low sulphur gasoline and ultra-low sulphur diesel among other products. Parkland, BC's largest refiner, brings in approximately 90 percent of its crude requirements from Alberta on the TMPL with the remaining percentage coming in by rail.[85] Husky Energy states that its refinery utilization over the past four years has averaged 83 percent inclusive of downtime for planned and unplanned maintenance which put them in the top half among benchmarks[86]. Husky Energy states that its refined gasoline and diesel products primarily serve Husky Energy retail outlets in Prince George and central and Northern BC[87]. Parkland reports that refinery utilization is a key performance metric which can be impacted by downtime due to turnarounds. Refinery utilization for the first quarter of 2019 was 92 percent and overall is reported to be greater than 90 percent.[88]

5.2.2 Alberta and Saskatchewan Refineries

There are three refineries in Edmonton; Imperial Oil with 187,000 b/d, Suncor with 147,000 b/d and Shell with 100,000 b/d. In addition, there is one refinery in Saskatchewan owned by FCL with a capacity of 130,000 b/d. These refineries are primarily reliant on Alberta crude. Imperial Oil reports that nationally its refinery utilization

[82] Exhibit C1-2, p. 16.
[83] Oral Workshop Transcript Volume 1, p. 226.
[84] According to the Canadian Fuels Associations 2019 figure, BC capacity is 67 kb/d and demand is 232 kb/d. This means BC's refining capacity is approximately 29 percent of BC's total demand. Parkland's 55 kb/d refining capacity portion would be approximately 24 percent and Husky's would be approximately 5 percent.
[85] Exhibit C5-2, Appendix A, p. 2.
[86] Exhibit C7-2, PDF p. 3.
[87] Oral Workshop Transcript Volume 2, p. 531.
[88] Exhibit C5-2, PDF pp. 14-17; Appendix A, p. 12.

is approximately 90 percent on average but did not confirm the actual utilization of its Edmonton facility. Suncor reports that its refinery is running at full capacity while Shell did not disclose its capacity utilization.

5.2.3 Other Sources of Refined Product

Another important source for refined product is the PNW, located in PADD 5. There are five refineries in Northwestern Washington state: BP Cherry Point, Shell Anacortes, Marathon Anacortes, Phillips 66 Ferndale and U.S. Oil Tacoma, with capacities of 225,000, 145,000, 120,000, 101,000 and 47,000 b/d respectively. Many of these refineries are in close proximity to Vancouver and allow for easy marine access to the Port of Vancouver. These refineries source over 80 percent of their crude by tanker from Alaska, and Alberta (via TMPL) as well as some Bakken crude-by-rail from North Dakota.[89]

In addition to the PNW in PADD 5, there is evidence indicating significant amounts of refined product coming from PADD 3 or the Gulf Coast.

A review of Port of Vancouver records shows that in addition to these sources over the past eight and a half years, gasoline has also been imported from the following locations:[90]

1. South Korea;
2. Netherlands;
3. Bahamas;
4. Aruba; and
5. Spain.

5.3 Sources of Crude Oil and Refined Products

As noted, the primary source of crude oil for BC refineries varies according to the refinery. The primary source for Husky Energy is BC crude, while Parkland is primarily dependant upon Alberta light crude. In addition to this, a review of Vancouver Port Authority records indicates that in some instances crude oil sourced in Alaska has been received. The sourcing of crude oil has not been raised as an issue in this inquiry. However, issues related to the cost and transport of feedstock crude oil will be discussed in detail in Section 5.4. The most significant factor that affects the BC market is refined gasoline and diesel which is imported into the province from other markets and its impact on prices in the province.

Total BC refinery production is considerably less than what is needed to meet the demand for refined product. As a consequence, BC must import over 70 percent of its refined gasoline from sources in Alberta, Saskatchewan, the U.S. and around the world. Deetken addressed this in its Phase 1 report by providing illustrations of the relative importance of import sources for both gasoline and diesel. It subsequently updated its submission for gasoline to include only road use gasoline. These are presented below in Figures 17 (Diesel) and 18 (road-use gasoline).

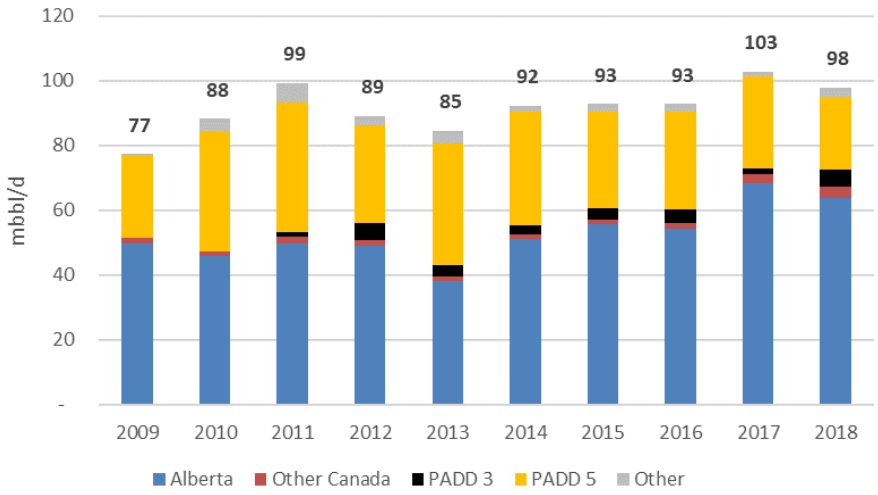
Based on import data sourced from the Ministry of Finance, the largest source of diesel imports is Alberta with approximately 60 percent originating there followed by PADD 5 with approximately 20 percent and smaller

[89] Exhibit C5-2, pp. 14-17; Exhibit C7-2, PDF p. 3; Oral Workshop Transcript Volume 2 p. 531; Exhibit C2-2, p.1; Exhibit A2-6, pp. 35-37.
[90] Exhibit C1-5.

amounts coming from PADD 3 and others. The large amount coming from PADD 5 seems reasonable given the proximity of the Port of Vancouver to many of the refineries located on the Washington coast close to the Canadian border and having access to shipping lanes.

With respect to gasoline the results are somewhat similar, with Alberta providing an approximate range of 72 percent to 84 percent of refined gasoline imports. Of interest is the growing share of this market by PADD 3 which is reported to account for 11 percent of imported gasoline in 2018. This is interesting given the Gulf Coast's distance from this market.

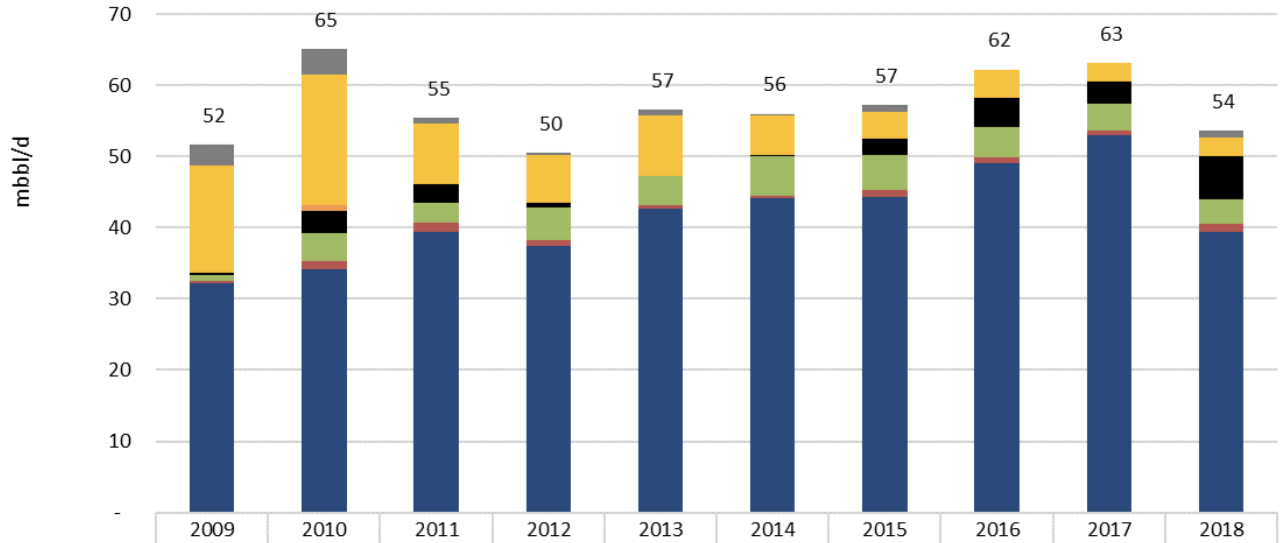
Figure 17: Diesel Imports to BC[91]



There appears to be some discrepancy with respect to the level of imports from originating sources. The Port of Vancouver Report only reports imports from the U.S. Their numbers do not align with the total of imports from the PADD regions in Deetken's report which is sourced from the BC Ministry of Finance.

[91] Exhibit B2-1-3, p. 4.

Figure 18: BC Imports of Road-Use (clear) Gasoline by Source Location[92]



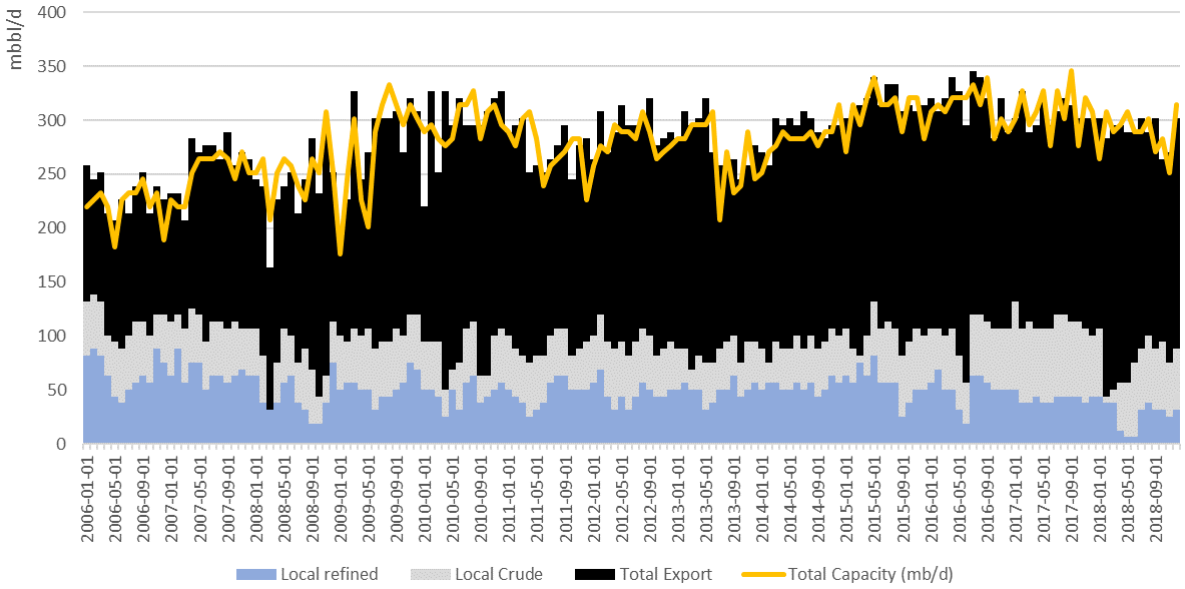
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Other	3	4	1	0	1	0	1	-	-	1
PADD 5	15	18	8	7	9	6	4	4	3	3
PADD 4	-	1	-	-	-	-	-	-	-	-
PADD 3	0	3	3	1	-	0	2	4	3	6
PADD 2	-	3	3	5	4	5	5	4	4	3
PADD 1	1	1	-	-	-	-	-	-	-	-
Other Canada	0	1	1	1	0	0	1	1	1	1
Alberta	32	34	39	37	43	44	44	49	53	39
Total	52	65	55	50	57	56	57	62	63	54

In addition to importing, BC ports export crude oil. In 2017, Canada was the fourth largest crude oil exporter in the world, exporting 3.32 million b/d. A significant part of this was via the TMPL through the province of BC. The TMPL is connected to four terminals over its length and two of these, the Sumas Pump Station and Terminal and the Westridge Marine Terminal are capable of handling crude oil product for export. The Sumas Pump Station and Terminal is located in Abbotsford close to the U.S. border. In addition to routing crude oil directly to the Burnaby terminal, it can also be routed through to Washington state via the Trans Mountain Puget Sound Pipeline System which delivers oil to four refineries on the West Coast. This receipt for export point has been used for crude oil products only with heavy crude being most predominant and smaller amounts of light crude. The Westridge Marine Terminal is located about three kilometers from the Burnaby Terminal. It has facilities designed to load tankers and is capable of handling ships up to Aframax-size.[93] The Westridge Terminal exports primarily heavy crude to refineries on the West Coast of the U.S. and to Asia. [94]

The TMPL is thus an important part of Canada's oil export market. This is illustrated by Figure 19 which breaks down the TMPL throughput into three categories; local refined, local crude and total export.

[92] Exhibit A2-1-3, p. 5.
[93] Dead weight tonnage between 80,000 and 120,000 metric tonnes.
[94] Exhibit A2-1, pp. 13-14.

Figure 19: Trans Mountain Throughput by Category



Based on this data only 26 percent of the TMPL throughput is routed to BC as a destination with 53 percent of the throughput going to the U.S. and 21 percent being shipped out through the Westridge Marine Terminal.[95] Since much of this throughput is crude for export or for the Parkland refinery it becomes apparent that currently the TMPL has capacity to only supply part of BC's road use fuel requirements.

In addition to crude oil, road use fuel is also shipped out of BC. This issue was raised during the Inquiry and was explained that there are instances when due to supply/demand issues excess refined product is shipped out of the country.[96] These excesses occur primarily in the winter when demand is lower[97]. The Panel observes that it is also possible that at times there are opportunities which arise when it is to an oil company's advantage to export product to another country. We don't believe this to be problematic unless it can be shown that it has led to a shortage of supply or the practice unnecessarily contributes to increased gasoline or diesel prices. There is no evidence to suggest this is the case. **The Panel therefore finds the current export practices to be reasonable and in keeping with a functioning market**.

5.4 Issues with Transportation of Crude and Refined Products

Once crude or refined product is sourced it needs to be shipped to the province. Transportation of these products is by either pipeline, rail, marine or truck. Of these, pipelines are considered the most desirable means to move these products. This is primarily because pipelines can move very large amounts and do so in a relatively cost-effective manner. While other methods like rail and marine have the potential to move relatively large amounts of product, they are more expensive and potentially require the addition of facilities and solutions to logistical challenges with offloading.[98]

[95] Exhibit A2-1-3, p. 5.
[96] Ibid., p. 6.
[97] Exhibit C1-2, p. 16.
[98] Oral Workshop Transcript Volume 1, pp. 292-293; Oral Workshop Transcript Volume 4, pp. 673-674.

As depicted in Figure 15, BC has a number of pipelines in various locations throughout the province. These are generally specific in purpose like that connecting Taylor, BC with Prince George and, as such, serve a limited number of markets. The only pipeline with the potential to serve the broader Vancouver area market is the TMPL. This pipeline transports a range of crude oils and refined products from a receipt point in Edmonton, Alberta to delivery points in Kamloops, Sumas and the Lower Mainland. However, there are claims that access to the pipeline is limited and, as a result, Oil Companies state that this has necessitated finding other means of moving crude and refined product through their networks. This has led to Oil Companies placing greater reliance on other modes of transportation such as rail, marine and trucks to move required volumes of crude or refined products from source to market.[99] Contrary to this, the contention that the TMPL has been fully utilized has been disputed. Robyn Allan and Marc Eliesen (Allan and Eliesen) have claimed that the TMPL has not been operating at full capacity and more refined product could be transported. [100] This issue will be addressed further within this section of the report.

Transportation by Rail

Parkland, Suncor, and Imperial Oil have all indicated they have increased the volume of refined products they ship to British Columbia by rail. This is because of constraints related to pipeline capacity and apportionment on the TMPL and their inability to rely on it as the sole means of transportation.

Irrespective of the basic economics, Parkland explains that crude-by-rail has its own constraints in terms of logistical capabilities, term commitments, rateability requirements, and quality challenges that preclude crude-by-rail from being a 1:1 replacement for TMPL capacity shortfalls. [101] Further, Parkland states it has seen crude-by-rail costs between 10 to 15 times the TMPL base tariff.[102] However, they provided no evidence as to how often this occurs or for how long those prices are in effect.

Moreover, switching to rail to transport product can be “a difficult exercise” as described in the Oral Workshop by Imperial Oil. In their specific case they first had to expand their capabilities at source to allow for loading and then find an adequate storage location in Vancouver as it also had to serve as a supply point for their local market. Ultimately their solution required development of a marine supply chain requiring a barge to move it from the rail location to their facilities.[103] While not determinative, this anecdote serves to highlight some of the logistical difficulties that must be overcome when Oil Companies are required to rely on a mode of transportation other than pipeline.

Transportation by Marine

There are several Primary Terminals that have access to the Burrard Inlet and have the dock infrastructure necessary for discharging marine vessels and loading trucks. Coupled with the accessibility of Washington state refineries this makes supply by marine vessel a viable option. Based on these favourable circumstances, a number of the Oil Companies have placed some reliance on this transportation option. Shell has stated that it “generally supplies its Burnaby and Chemainus gasoline storage facilities via barge from refiners in the Pacific Northwest (United States) to Vancouver & Vancouver Island.”[104] This seems to indicate that bringing in refined product by marine from Washington is, at least in one instance, a viable alternative.

[99] Exhibit C2-2, p. 5; Exhibit C5-2, p. 31; Exhibit C8-2, p. 3.
[100] Exhibit C1-2, pp. 31-36.
[101] Exhibit C5-6, p. 1
[102] Ibid.
[103] Oral Workshop Transcript Volume 1, pp. 291-292.
[104] Exhibit C10-1, p. 5.

Transportation by Tanker Truck

Transportation by tanker truck is the least relied upon method to move refined product from source to the BC market. This is because of the small size and high cost of tanker trucks relative to other options. As a consequence, tanker trucking of refined product seems to be limited to specific instances where it is viable such as in supplying BC's Northern regions or to take advantage of an opportunity which has arisen in the marketplace. However, as pointed out by Deetken, a tanker truck "is a more flexible and less complex shipping method."

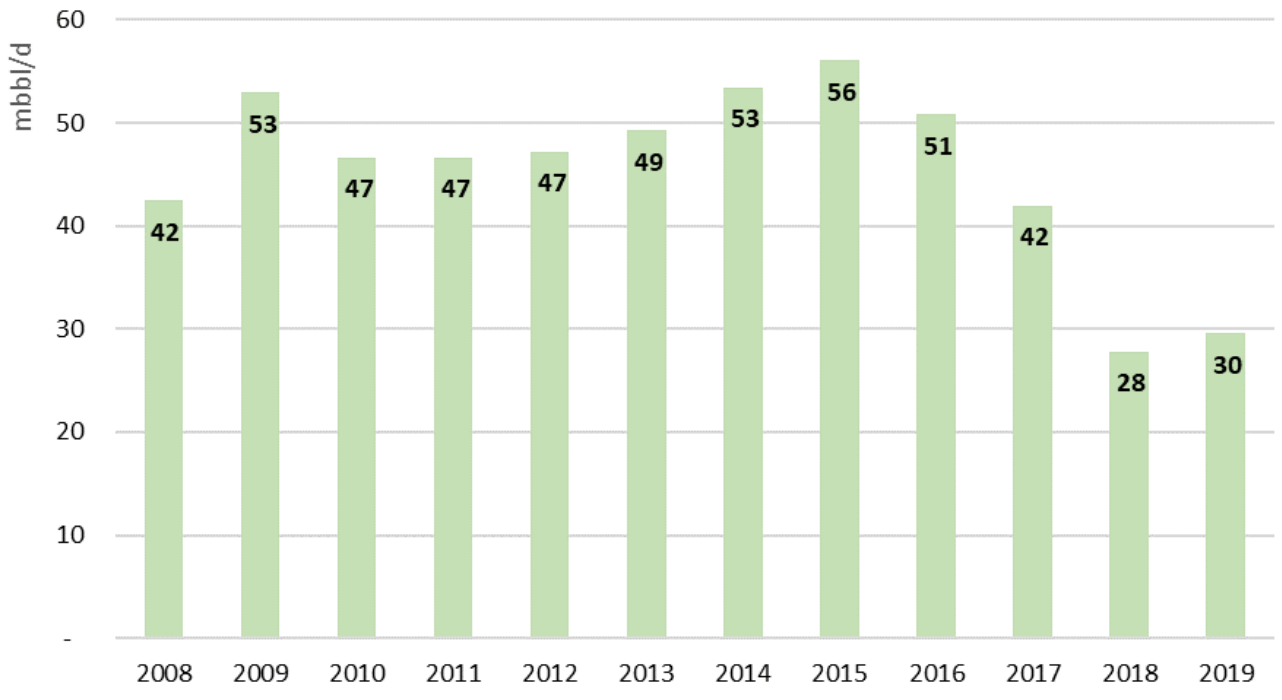
Transportation via the TMPL

Given the importance of the TMPL to BC's supply chain and the challenges related to other means of transportation, it is not surprising there have been concerns raised with respect to its operation. The differences amongst the parties concerning the issue of capacity has already been outlined. In addition, these issues have also been raised by interveners with respect to changes in how space is allocated on the pipeline and the amount of capacity given to crude versus refined product. While not raised specifically by the parties, the Panel also considers the ratio of TMPL transported product that is exported versus that which is for domestic use in the province to be a matter worthy of discussion.

i) The Amount of TMPL Throughput devoted to Crude as compared to Refined Product

The amount of refined product being transported through the TMPL has been moving progressively lower since 2015. This point was raised by Allan and Eliesen in their submission and has not been disputed by the participating parties.[105] The flow of refined product is outlined in Figure 20 which depicts the amount of refined product throughput on the TMPL on a daily basis from 2008 to date in 2019.

Figure 20: All Refined Product – Throughput Received in Burnaby from the TMPL[106]



[105] Exhibit C1-2.
[106] Exhibit A2-1-1, p. 38.

The trend since 2015 has been consistently downward with the lowest levels being achieved in the most recent years with throughput averaging 28 Mb/d in 2018 and 30 Mb/d so far in 2019. Deetken links this to the existence of an arbitrage opportunity. This opportunity grew to over 15 cents per litre in 2018. Since the TMPL ships a variety of crude oils and refined petroleum products, each shipper's economic valuation for line-space is highly dependent on the relative arbitrage opportunity between products.

Deetken explains:

> Although this comparison does not include transportation costs, it is evident that, in 2018, the spike in the crude arbitrage opportunity rose above the refined product arbitrage opportunity. It is expected that the interaction between these two arbitrage opportunities would result in more crude being transported. This is because the benefit of crude sale after transport to the BC coast is higher than the benefit of refined product sales after transport to the BC coast. Therefore, fuel shippers would be willing to pay a higher premium to ship crude than to ship refined product through the pipeline. This premium is expected to be used to purchase transport capacity (e.g. on the TMPL) and would need to be paid up to the point that the arbitrage opportunity across the products, including transport costs converge.[107]

Deetken explains that the crude transport will only begin to displace refined product once the total export capacity for Alberta has been met. This was achieved in 2018 when Alberta started producing more crude than it had pipeline capacity to export.[108] Based on this line of reasoning, the arbitrage opportunity should be reduced or eliminated once the expansion pipeline has been completed.

ii) Changes in the TMPL Allocation Methodology

As discussed, the lack of refinery capacity in BC has resulted in most oil companies being largely dependent on refined product to be shipped into BC from other locations. For reasons discussed, the TMPL is the most desirable option and it is in the best interests for oil companies to maximize their use of this resource through maintaining or growing their allocation of available space. A number of Oil Company interveners cite changes in the allocation methodology on the TMPL since 2015 and apportionment[109] as one of the main cost factors driving higher transportation costs for refined products and light crude.[110] The current allocation methodology has been outlined in Tariff No. 105 in Section 14.3.[111]

A key area of change to the allocation method in 2015 was the transition to a historical averaging volume allocation process. This results in the creation of an ultra-competitive aftermarket for line space which, as stated by Parkland, can reach as high as 7 to 34 times the base tariff.

The challenge faced by refined product shippers was explained by Suncor within the oral hearing. The capacity on the TMPL can move up or down dependent upon the amount of heavy versus light crude being shipped based on two factors; the nominations and the amount of crude that is diverted from water (through Westridge Marine Terminal) to land as a result of the aftermarket. Suncor explains that when aftermarket line space is purchased by crude line shippers it dilutes or reduces Suncor's line space allocation. Further, when market

[107] Ibid., p. 39.
[108] Exhibit B2-1-1, pp. 38-41.
[109] Apportionment is the industry term used to describe the amount of demand shippers place on the pipeline in excess of its available capacity.
[110] Exhibit C2-2, p. 5; Exhibit C8-2, p. 5.
[111] Exhibit A2-10, PDF p. 11.

conditions are such that refined product from Alberta is limited, Suncor reports that it may elect to ship its Edmonton refined product eastward and import product by sea to Vancouver where they have facilities equipped to handle marine delivery. In such instances Suncor will not use all of its line space. Instead it will nominate a smaller volume for shipment and make the balance available to the pool where it is likely picked up by crude shippers who are prepared to pay a premium. Under the allocation rules, the space Suncor has given up will be credited to the supplier that picked it up and Suncor's future allocation will potentially drop due to a change based on its average allocation. As a consequence, it is Suncor's position that crude shippers would have the upper hand in current circumstances with respect to maintaining and growing their line space allocations.[112]

Trans Mountain states that the current allocation rules in Tariff 105 were a result of NEB proceedings where, among other matters, the allocation of scarce pipeline capacity among shippers was considered. Trans Mountain asserts that the decision made by NEB resulted in a fairer nomination system than existed previously "including establishment of historic capacity rights for land-based destinations, while supporting a market environment that allows scarce pipeline capacity to be used by shippers that value it the most". Trans Mountain prepared a simplified description of how the system works. [113]

iii) Use of the TMPL for International Shipments

As discussed, only 26 percent of the TMPL throughput is routed to BC as a destination. The largest part of this is for Vancouver terminals with the remainder being offloaded in Kamloops. This leaves the majority of the throughput being either shipped out of the Port of Vancouver or shipped to the U.S.

Allan and Eliesen state that "Trans Mountain's expansion application approved by the NEB very clearly states that there will be no increase in the supply of refined products to the BC market."[114]

Trans Mountain states that the Trans Mountain Expansion Project will almost triple the pipeline capacity to 890,000 b/d for shipment to the West Coast and offer shippers expanded capacity to all pipeline served markets. It is expected that 80 percent of the available capacity will be allocated to long-term contract shippers who will be provided with flexibility to assign their firm capacity to other shippers some of whom have connected facilities in BC. Trans Mountain states that the remaining 20 percent of the capacity will be reserved for uncommitted shippers with land-based destinations such as BC having fair access to the majority of this remaining 20 percent.[115] However, worthy of note is that a review of the engineering specifications related to the expansion project indicates there is no planned additional tank capacity for refined product.[116]

iv) Use of Current TMPL Capacity

Allan and Eliesen claim that the TMPL "has had the capacity to deliver refined product to the BC market - particularly in the first quarter of 2019-but it was not used." According to Allan and Eliesen the TMPL has had a capacity of 400,000 barrels a day. Allan and Eliesen state:

[112] Oral Workshop Transcript Volume 2, pp. 305-315.
[113] Exhibit E-68, p. 2.
[114] Exhibit C1-1, p.36.
[115] Exhibit E-68, p.4.
[116] https://apps.neb-one.gc.ca/REGDOCS/File/Download/3307636; https://www.portvancouver.com/wp-content/uploads/2017/06/TR.08_TMEP_VFPA_air.report_Final_May2017-Cond-52-Appen-1.pdf, p. 31, 34.

At 95 percent Operating Capacity, 20 percent Heavy Composition results in 300,000 barrels a day of throughput (see bold in Trans Mountain's table). When there is no Heavy Composition, throughput at 95 percent Operating is 401,212 barrels a day.[117]

In support of their position, Allan and Eliesen offer the following Table 7:

Table 7: Capacity on Current Trans Mountain System

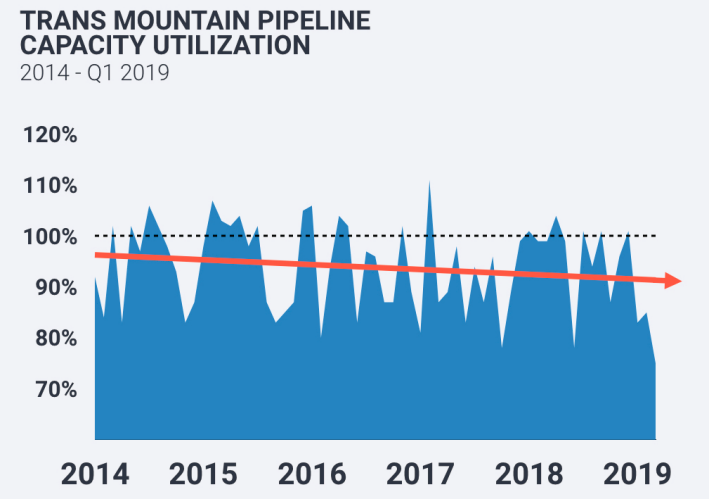
Calculation of Final Tolls
ITS - 26

INCENTIVE TOLL SETTLEMENT
Appendix 1
Table of Pipeline Capacities for Current System (TMPSE) and Anchor Loop Expansion
at Carrier's Reference Line Temperature
Barrels per Day

Line	Definition	Heavy Composition	Design	Hydraulic Test	Operating	Tolls	Capacity Penalty
	% of Design Capacity		100.00%	97.38%	95.00%	92.50%	90.00%
1	A. Anchor Loop Expansion [6]	0%	422,328	411,263	401,212	390,654	380,096
2	(Predicted)	5%	382,727	372,700	363,591	354,023	344,455
3		10%	342,835	333,852	325,693	317,122	308,551
4		15%	324,036	315,546	307,834	299,733	291,633
5		20%	315,790	307,516	**300,000**	292,105	284,211
6		25%	306,832	298,793	291,490	283,819	276,148
7		30%	297,755	289,954	282,867	275,423	267,980
8		35%	294,959	287,231	280,211	272,837	265,463
9		40%	285,970	278,478	271,671	264,522	257,373

Allan and Eliesen state that in the first quarter of 2019 Trans Mountain had unused capacity and estimates system utilization to be 85 percent in January and February and 75 percent in March.[118] In Exhibit C1-3, Allan and Eliesen stated that it compiled throughput and capacity utilization rates based on the percentage of heavy oil shipped over the 2014-2019 period in a graph (Figure 21) .

Figure 21: Trans Mountain Pipeline Capacity Utilization



[117] Exhibit C1-2, p. 35.
[118] Ibid.

According to Allan and Eliesen, the graph they provided indicates several months where capacity was not fully utilized and the red arrow indicates that the trend has been increasing as shippers have become more aware of "how to game the nomination system as some shippers with guaranteed capacity can make more money not shipping product than shipping it." Allan and Eliesen attribute the unused capacity to "flaws in the nomination process and in the secondary-or 'aftermarket'- that is leading to less than efficient allocation of capacity."[119]

By letter of comment dated August 8, 2019, Trans Mountain responded to many of Allan and Eliesen's submissions concerning capacity. Trans Mountain explains that throughput determination is complex and dependant on a number of factors. These include characteristics of the petroleum nominated, planned outages or carry over volumes scheduled for delivery or injection in the prior month and in any given month unexpected events may be experienced. Trans Mountain reports that since the last major expansion in 2009 the throughputs have ranged from 275,000 to 320,000 b/d depending on the product being moved and the level of available capacity.

Allan and Eliesen have asserted that there was additional unused capacity that could be used for increased delivery of refined product to BC and when low percentages of heavy crude are shipped the capacity of the pipeline is much higher than reported throughput. Trans Mountain responded as follows:

> AE have misinterpreted the data prepared by Trans Mountain in its 2010 final toll filing and presented as part of AE's evidence in the Appendix 1 of Exhibit C1-4-2. The referenced data describes largely theoretical capacity levels developed for incentive toll settlement purposes between Trans Mountain and its Shippers. At lower heavy percentages, the data do not account for hydraulic limitations of the pipeline system and connected facilities, which has the effect of reducing pipeline capacity. AE fail to identify that in Appendix 2 of Exhibit C1-4-2 Trans Mountain acknowledges that revisions may be necessary: "*Should the Anchor Loops graphs and equations contained in this Schedule require further updating, a revision will be submitted for review and approval.*" In 2017, following a period of lower heavy throughputs on the pipeline a revision to the method for interpreting capacity for the purposes of incentive sharing was in fact made and approved by the NEB.[120]

Panel Findings

The Panel considers many of these issues to be related. As such they cannot be separated and dealt with in isolation.

For example, the problem outlined by Suncor related to not being able to secure sufficient throughput space on the TMPL to satisfy their requirements is directly related to the excess Alberta crude production creating a surplus and the demand for this product in other markets creating arbitrage opportunities. Crude suppliers have taken advantage of this opportunity by shipping to those markets where the opportunity exists. This has, in turn, created increased demand for capacity on the TMPL and crude suppliers have demonstrated they are prepared to pay a premium in the aftermarket to take advantage of these opportunities. This increased demand to move additional crude over the TMPL has, in turn, been facilitated by the changes in the allocation methodology which have resulted in the potential for lower future allocations for refined product unless they fulfill their allocations on a regular basis. Oil Companies in turn have noted that there are circumstances that arise with regard to

[119] Exhibit C1-4, pp. 15-16.
[120] Exhibit E 68, pp. 2-3.

refined product supply that cause them to reassess their nominations on the TMPL and return an excess to the pool.

The change in the allocation methodology better ensures the maximum use of its pipeline capacity and appears to have added a greater level of predictability to the shipments on the pipeline. **However, the Panel finds that the change in the allocation methodology in the Tariff has affected the amount of refined product being transported by the TMPL into the BC market.** Thus, the difficulty experienced by Suncor with the allocation process appears to be a direct consequence of steps taken by Trans Mountain and approved by the NEB to determine a fair and more effective allocation process.

The potential solution to moving additional amounts of refined product into the BC market by pipeline appears to be very closely related to the completion of the Trans Mountain Expansion Project. As reported by Trans Mountain, the expansion will effectively triple the current capacity for movement of product into BC. However, there is no guarantee there will be additional access for refined product to be moved over the pipeline once the expansion has been completed. There is evidence that shows no additional RPP terminal capacity is planned for the Trans Mountain expansion. Therefore**,** we are unable to determine whether there is any increase in RPP capacity as a result of the pipeline expansion**.** Even if it were able to carry more RPP, the allocation process for this additional space provided by Trans Mountain in no way guarantees that there will be an increase in refined product being transported for use in BC**.**

A further issue lies in the amount of refined product that is available for shipment to BC from Alberta. Alberta refineries have sufficient capacity to provide refined product to satisfy all of BC's needs over and above its local production. If true this would, in effect, reduce the need for reliance on refined product being brought in from the U.S. This was not a subject of this Inquiry and has not been thoroughly investigated. While the evidence points to Alberta's substantial refining capacity, the evidence given by Suncor seems to indicate that there are instances where refined product is in short supply. Moreover, Shell's reliance on imported refined product may well be a consequence of being unable to secure adequate supply economically from Alberta sources. However, Parkland confirmed that if more transportation capacity was available at a reasonable price, such as rail or pipeline, a lot more product could be shipped from Edmonton into the BC market thus reducing the reliance on other markets.[121]**Therefore, the Panel finds that the evidence on the additional amount of refined product that Alberta is able to provide given reasonable transportation costs, is inconclusive**.

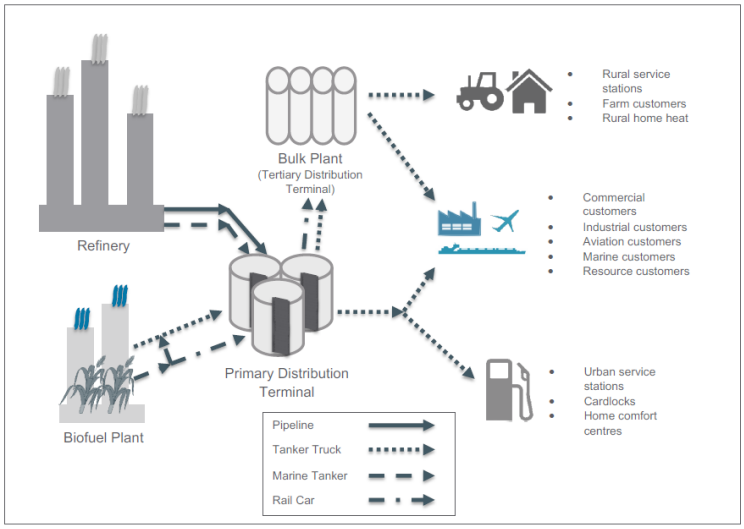
This leaves the issue related to whether the current capacity of the TMPL is being fully utilized. Trans Mountain has filed evidence addressing Allan and Eliesen's concerns and explaining that their estimates as to maximum capacity are incorrect and explained why, pointing out that Allan and Eliesen misinterpreted the data which describe largely theoretical capacity levels. It has acknowledged that average throughputs have ranged from 275,000 to 320,000 b/d but stated that the pipeline has been operating at capacity. Most compelling, however, are the statements of Oil Companies as to the lack of space available on the TMPL. The Panel can see no reason why these companies would be denied access for crude or refined product throughput if it indeed existed. **Therefore, the Panel finds that no weight can be given to Allan and Eliesen's assertions with regard to the pipeline not operating at full capacity.**

[121] Oral Workshop Transcript Volume 4, p. 672.

5.5 Primary and Bulk Terminals

Fuel products, once refined need to be stored in terminals and held in inventory prior to being delivered to end use customers. Figure 22 depicts the flow of product from the refinery to their ultimate supply chain destination. As shown in the illustration, there are two types of terminals: primary and bulk. Each of these perform a unique role in the distribution of refined products to the end user.

Figure 22: Refined Product Movement within the Downstream Petroleum Industry Supply Chain[122]



As outlined in Section 4.3, primary terminals handle larger volumes and are typically the first point of storage and distribution after the refinery. BC has 15 primary terminals throughout the province, and nine of those have biofuel blending capabilities.[123]

A listing of BC Primary Terminals and their ability to perform blending is shown in the following table:

Table 8: BC Primary and Bulk Terminals

Terminals in BC			
Owner	**Primary Terminals**	**Primary Terminals with biofuel blending capabilities**	**Bulk Terminals**
Parkland.	3	2	12
Husky Energy	1	1	3
Imperial Oil	3	3	8
Kinder Morgan, Inc.	1	0	0
Shell	3	1	0
Suncor	4	2	20
FCL			11
Total	15	9	54

[122] Exhibit A2-3, PDF p. 57.
[123] Exhibit A2-1, Appendix 1.

As noted in Section 4.4, fuel regulations are common and there are minimum mixing requirements which are common across most jurisdictions. However, as outlined, BC has a number of blending and LCFS requirements which are unique and set the province apart from other regions. In addition, where refined products are imported from the U.S., testing of the imports to assess whether they meet Canadian specifications also occurs at the Primary Terminals, as well as certification.[124]This underlines the importance of Primary Terminals ownership as all gasoline and diesel is required to adhere to these regulations and whether imported or produced locally, must go through one of these nine terminals for blending to meet these requirements. All of BC's Primary Terminals with blending capability are owned by either Parkland, Suncor, Imperial Oil, Shell Canada or Husky Energy.

Kinder Morgan, Inc.'s (Kinder Morgan) Primary Terminal referred to the table above is the jet fuel pipeline system[125] , and transports jet fuel from the Parkland refinery and Westridge terminal in Burnaby to the Vancouver International Airport terminal.[126] While not listed in the table above, Kinder Morgan also owns the Vancouver Wharves terminal in North Vancouver that handles liquid and bulk products. They specialize in diesel and biodiesel import and export.[127] Therefore, Kinder Morgan is not a domestic supplier of gasoline or diesel.

Changing regulatory and compliance requirements and their impact on storage capability was raised by some interveners. Suncor states that this has resulted in there being a need to reallocate existing storage in order to store and blend biofuel products at their terminals resulting in storage constraints. Suncor confirms they have had to install additional storage tanks and modify loading and off- loading equipment. Parkland states that its Burnaby terminal is constrained by limited land but have managed to build new tanks to accommodate the biofuels in the supply chain at other terminals[128].

The infrastructure for importing refined products has largely developed around the capacity of the Trans Mountain Pipeline. This includes port facilities, primarily in the Lower Mainland and Vancouver Island for offloading and gasoline. According to the Dr. Rensing's affidavit, if the province had to replace refined products that are currently supplied by TMPL, there is inadequate infrastructure in BC to transport, receive, store and distribute large quantities of refined fuels from any market other than Alberta. [129]

Parkland explains that each terminal typically operates against operating constraints which include marine and wharf limitations, the inability to change tank service from gasoline to diesel and the overall volume capacity for different diesel and gasoline grade differentials.[130] Further terminal capacity could reduce the impact of existing constraints.

Most of the Oil Companies have reported there has been no growth in storage capacity since 2015 and some of their storage terminals have been operating at or close to full capacity.[131] Parkland states that their terminals are operating at, or close to, economic capacity. However, Shell submits that while its Shellburn terminal

[124] Oral Workshop Transcript Volume 4, pp. 715-716.
[125] https://www.kentgroupltd.com/wp-content/uploads/2017/12/Report-OverviewofCanadasLogisticalInfrastructure.pdf, p. 32.
[126] Exhibit A2-1, p. 14; Appendix 1, p. 31; Exhibit A2-1-1, p. 41; https://www.kindermorgan.com/pages/business/products_pipelines/jet_fuel.aspx.
[127] Exhibit A2-9, p. 4.
[128] Exhibit C2-2, p.6; Oral Workshop Transcript Volume 4, pp. 686-688.
[129] Exhibit E-47, Affidavit of Dr. Michael J. Rensing, p. 4.
[130] Exhibit C5-2, Appendix A, p. 16.
[131] Exhibit C5-2, Appendix A, p. 16; Exhibit C10-2, PDF p. 5.

generally operates at full capacity, the requirements of Shell's local retail and commercial fuels network does not require its Chemainus and Burmount terminals to operate at full capacity.[132]

According to the Kent Group, marketers [133] generally utilize shared terminals in order to reduce overall operating costs where the terminal operator receives a fee from marketers lifting product from their terminal. In order to do this it is assumed that there are agreements between the Primary Terminal owners to handle one another's fuel types and each has the facility to create each marketer's particular branded blend of fuel.

In addition to Primary Terminals, there are 54 bulk terminals located throughout the province of BC. In contrast to the larger Primary Terminals, bulk terminals handle smaller volumes and generally receive product via tanker trucks from a Primary Terminal rather than a refinery. Structurally, they are smaller version of Primary Terminals and generally have one loading rack and fewer tanks with no ethanol blending capability. Bulk terminals typically serve commercial wholesale customers in more remote and less populated areas where frequent deliveries from the Primary Terminal are not economical.[134] Unlike Primary Terminals, bulk terminals are less likely to be shared and they generally serve as local sales offices as well as distribution facilities. According to the Kent Group, bulk plant operators are usually contracted on the basis of a throughput commission (when owned and operated by the brand marketer), or as independent buy/sell owner/operators under a branded supply contract.[135]

Dr. Kahwaty explained that refiners such as Shell, Husky Energy and Parkland supply independent dealer stations. He also noted that they also supply independent marketers like McDougall Energy and Global Fuels Inc. who purchase fuel at wholesale at racks at terminals, and transport and distribute that fuel to independent dealers. Thus, if an independent dealer station wishes to open up, it can contract with one of the refiners or contract with one of the independent marketers like McDougall Energy for supply.[136]

When asked if an independent seller could purchase fuel somewhere else and bring it to Parkland's terminal for blending, Parkland confirmed that while independents have access to its terminals, they are required to purchase Parkland's products. Parkland also confirmed that it does not allow an independent to purchase fuel from another party, to bring it into its terminals for blending and to resell it. Parkland explained:

> And the reason we don't do that is there are logistical issues. One is you have to be able to offload what comes into the terminal via tanker truck. That is not something every terminal is equipped to do. And to keep segregated the gasoline, the diesel and all the various components. So really it's just – again, it's a physical, very physical limitation to being able to do that.[137]

In response to a similar question and how it might affect the retail market in BC, Suncor stated that doing so would lead to inefficiencies and increased costs due to, smaller tanks, less optimal shipments, etc.[138] Suncor confirmed that all fuel sold under the Petro-Canada brand must be supplied by Suncor so that the company can ensure the

[132] Exhibit C10-2, PDF p. 5.
[133] Exhibit A2-1, p. 17; describes 3 types of marketers: 1) integrated refiner-marketer, 2) integrated marketer-retailer, and 3) independent marketer.
[134] Exhibit E-42, p. 6.
[135] https://www.kentgroupltd.com/wp-content/uploads/2017/12/Report-OverviewofCanadasLogisticalInfrastructure.pdf.
[136] Oral Workshop Transcript Volume 1, p. 131.
[137] Oral Workshop Transcript Volume 4, pp. 659-662.
[138] Ibid., p. 704.

fuel meets its quality standards and contains the proprietary additives that it advertises. This supply is either done through a Suncor terminal or one that Suncor has an agreement with.[139]

Contrasting these responses on the use of existing terminals by independents with their own sources of refined product is that of a retailer, Super Save. Super Save explained that if the option to access existing terminals in BC by independents existed, it would absolutely change the retail market in BC because "anytime you can remove a barrier on anything, things flow better…We want easy access for not only us, for everybody."[140] It would result in easy access for everybody, including Super Save. The company explained that while it presently does not import gasoline from the U.S., one of the challenges is that they do not have access to tanks to mix it.[141]

5.6 Gasoline and Diesel Retail Markets in BC

The Kent Group's 2018 National Retail Petroleum Site Census estimates that gasoline stations located in BC, sold 5.08 billion litres in gasoline, with an average sale of 3.7 million litres per site.[142] Diesel sales are commonly handled through cardlock operations or through direct delivery to customers.[143] The eleven interveners in this proceeding including FCL, represent over 70 percent of the retail stations in BC.

Table 9: 2018 BC Retail Petroleum Site Summary

Marketers and Brands Sold			Number of Stations by Control			Marketer Share by Station Count	
Marketer	Type	Brands	Marketer Control	Dealer Control	Total	Share of Supply	Share of Price Control
Parkland Fuel Corporation	Refiner-Marketer	Chevron, Esso, Fas Gas Plus, Race Trac	173	100	273	20.0%	12.6%
Unidentified Marketers or Dealers	Non-Refiner	Unbranded/Unknown	0	204	204	14.9%	0.0%
Suncor Energy Products, Inc.	Refiner-Marketer	Petro-Canada	116	60	176	12.9%	8.5%
Shell Canada Limited	Refiner-Marketer	Shell	89	49	138	10.1%	6.5%
Husky Energy Inc.	Refiner-Marketer	Husky	80	45	125	9.1%	5.8%
7-Eleven Canada, Inc	Non-Refiner	Petro-Canada, Esso, 7-Eleven	124	0	124	9.1%	9.1%
Federated Co-operatives Limited	Refiner-Marketer	Tempo, Save on Gas, Co-op	0	77	77	5.6%	0.0%
McDougall Energy	Non-Refiner	Pump, Esso, Unbranded/Unknown	0	65	65	4.8%	0.0%
Super Save Group	Non-Refiner	Super Save Gas	25	15	40	2.9%	1.8%
BCP IV Service Station LP/BG Fuels	Non-Refiner	Mobil	39	0	39	2.9%	2.9%
Proctor Petroleum	Non-Refiner	Gas N Go	24	0	24	1.8%	1.8%
Centex Petroleum	Non-Refiner	Centex, Unbranded/Unknown	2	16	18	1.3%	0.1%
Couche-Tard Inc.	Non-Refiner	Mac's, Shell, Petro-Canada, Esso, Husky	14	0	14	1.0%	1.0%
Sobeys Capital Inc.	Non-Refiner	Safeway	10	0	10	0.7%	0.7%
Gas Plus Inc.	Non-Refiner	Gas Plus, Unbranded/Unknown	2	7	9	0.7%	0.1%
Canco Petroleum	Non-Refiner	Canco	0	7	7	0.5%	0.0%
Costco Wholesale Canada Ltd.	Non-Refiner	Costco	7	0	7	0.5%	0.5%
XTR Energy Company Limited	Non-Refiner	Gulf, XTR	0	5	5	0.4%	0.0%
Canadian Tire Petroleum	Non-Refiner	Canadian Tire	4	0	4	0.3%	0.3%
Domo Gasoline Corporation Ltd.	Non-Refiner	Domo	3	0	3	0.2%	0.2%
Shell Pilot Flying J Joint Venture	Refiner-Marketer	Shell and Flying J	3	0	3	0.2%	0.2%
BVD Petroleum	Non-Refiner	Petro-Canada	1	0	1	0.1%	0.1%
G&B Fuels Inc.	Non-Refiner	G&B Fuels	0	1	1	0.1%	0.0%
GTI Petroleum Ltd.	Non-Refiner	GTI	1	0	1	0.1%	0.1%
Total			717	651	1368	100.0%	52.4%

Source: "2018 National Retail Petroleum Site Census," Kent Group Ltd, June 7, 2019.

Table 9 shows all marketers and brands sold in BC, the number of stations by marketer or dealer control and their respective market share in terms of the number of stations and the share of price control.[144] This also

[139] Ibid., pp. 705-706.
[140] Ibid., pp. 732-733.
[141] Ibid., p. 740.
[142] Exhibit A2-3, PDF p. 105.
[143] Oral Workshop Transcript Volume 1, p. 226; Exhibit C5-2, Appendix A, pp. 19-20.
[144] Exhibit C5-2, Expert Report of Dr. Kahwaty, p. 65; Exhibit C5-9, p. 7.

defines the marketer by type and lists the brands they control. The largest single entity is Parkland, a refiner-marketer with a 20 percent share of supply and a 12.5 percent share of price control.[145] The other major refiner-marketers include Suncor, Shell and Husky Energy with shares of supply of 12.9 percent, 10.1 percent and 9.1 percent, respectively. Together, the refiner-marketers have a total share of supply of over 52 percent and share of price control of 33.6 percent.

Notable is the fact that a number of Oil Companies have opted to be out of the retail business in BC. Chevron and Imperial Oil are examples of this trend but the Panel observes that they nonetheless still have their brands strongly represented in the province. In addition, Suncor still operates Petro Canada within the province but has also allowed others such as 7-Eleven to offer their brand. Of significance is that the share of supply number is even higher when consideration is given to the fact that some of the non-refiner group are tied by brand related supply contracts to these refiner marketers who supply them with refined product. For example, Imperial Oil owns no stations directly but their brand is used by Parkland, 7-Eleven and McDougall Energy.

Non-refining marketers purchase refined products at terminals and sell these products to independent retail outlets, including BG Fuels/Global Fuels and McDougall Energy. They may deliver these products to the retail locations themselves or contract with others to arrange for delivery. They also have the ability to provide branding and marketing support (*e.g.,* customer loyalty programs) to independent retailers and may provide other services such as site planning as well.[146]

Costco, 7-Eleven, and Canadian Tire Corporation are vertically integrated marketers that supply their own stations.[147]

In the BCUC's questionnaire to interveners (Appendix C of Exhibit A-2), the BCUC asked a series of questions about the retailing business of gasoline and diesel. All retail interveners answered the questionnaire which addressed costs, retail margins and price setting methodologies among other things. Common themes that emerged in the Inquiry from interveners in the retail business are that costs have increased to run their retail stations, thereby, affecting their retail margins. Some interveners cite an increase in operating costs, such as maintenance costs, rental expense, property tax, labour costs, and transaction fees as well as transportation costs from terminals to retail outlets.[148] Only one intervener asserted that there have been no substantial systematic changes in gasoline and diesel retail cost drivers in BC over the last three to five years.[149] One other noted that the lower mainland has been impacted by cross border shopping which has caused retailers to lower retail prices in order to increase the number of litres sold.[150]

6.0 Economic Analysis and findings

The terms of reference for this Inquiry calls for an examination of the differences, if any, in refining and retail margins among British Columbia and other jurisdictions in Canada, the reasons for any differences, as well as an assessment of the extent to which gasoline and diesel price changes have been determined by competition versus other factors. In the previous section, we have looked at the supply chain underpinning the gasoline and

[145] Share of price control refers to percentage of total stations under the brand that are controlled by the marketer.
[146] Exhibit C5-2, Expert Report of Dr. Henry J. Kahwaty, p. 75.
[147] Ibid.
[148] Exhibit C2-2, pp. 9-10; Exhibit C5-2, Appendix A, p. 22; Exhibit C10-2, response to Q11 and Q21; Exhibit C11-2, p. 2.
[149] Exhibit C9-2, response to Q21.
[150] Exhibit C11-2, p. 2

diesel market, highlighted the transportation constraints limiting the capacity to bring additional refined products from Alberta. In this section, we focus on the price setting mechanisms at work in the wholesale and retail markets and look at various indicators (e.g. market concentration, barriers to entry, pricing differences between regions) to assess whether the prices in those sectors reflect prices that would be achieved under competitive market conditions.

6.1 Rack Price

Wholesale prices are generally based on prices set at the refinery gate or loading rack which are commonly referred to as "rack prices." Please see Appendix E for a discussion on how wholesale prices are determined. Since most transactions through the distribution system are based on these prices, understanding the rack price and the factors that drive it is of utmost importance. In the U.S. there are seven trading hubs for wholesale gasoline, but there is no such active trading market for gasoline located in BC or in Canada. Figure 23 below shows the refinery hubs at which transparent spot market ("wholesale") prices are available.

Figure 23: U.S. Trading Hubs

Each company sets its own rack price. Suncor and Shell post their rack prices publicly[151] while Parkland reports theirs to OPIS[152]. Husky Energy does not post a rack price for its product sold out of the refinery, but instead bases its prices off the Prince George rack prices posted by Suncor, Imperial Oil, and Shell.[153]

6.2 Cost of the "Marginal Barrel"

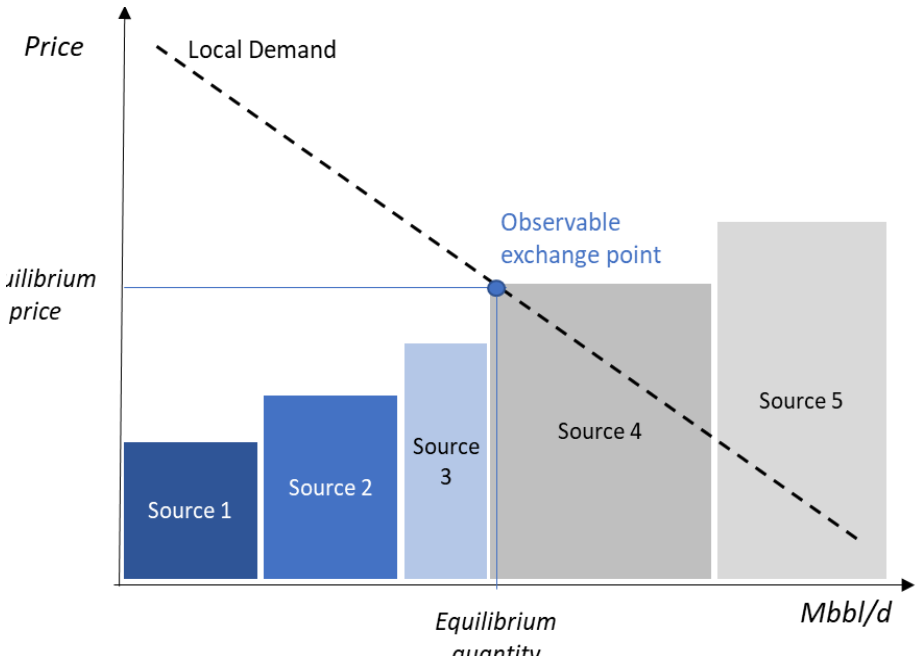
A prevalent view of the participants in the Inquiry is that the cost of the "marginal barrel", or "marginal unit" is a key determinant in the wholesale price of gasoline in BC. None of the Oil Companies argued against this reliance

[151] Oral Workshop Transcript Volume 4, p. 701.
[152] Exhibit C5-25.
[153] Exhibit C7-2, PDF p. 2.

on marginal barrel, although Allan and Eliesen suggested that this economic theory should only apply to competitive markets.[154]

Simply put, the wholesale price of gasoline in BC is set by the marginal unit (i.e. the most expensive delivered source of supply that would be needed to satisfy BC's demand for the product) as shown in the figure below.

Figure 24: Marginal Unit of Supply and Equilibrium Price[155]



Using the graph prepared by Deetken, Dr. Kahwaty points out that while it is the marginal unit that sets the price, infra-marginal units earn a higher profit.[156] He suggests that, when compared to other provinces, BC is more isolated and subject to capacity constraints and thereby needs to access higher cost supply sources whereas other provinces are better integrated with their sources of supply with no capacity constraints (e.g. Manitoba and the Enbridge pipeline and Nova Scotia with marine transport).[157] The implications of this are that the infra-marginal suppliers – those who can produce gasoline at a lower cost than can the marginal supplier, Source 1, 2 and 3 in the above graph – will have an amount of profit that is greater than they otherwise would be able to earn if the equilibrium price was set based on Source 3.

Dr. Kahwaty also notes that comparing wholesale prices in BC to BC refinery margins is not informative of the extent of competition or whether prices reflect market power. BC refineries may have a higher margin since they are not the marginal unit of supply but looking at that margin will not indicate whether they have market power or not because they are not the marginal source of supply.[158] **The Panel agrees on this point and will look at other factors to assess the likelihood that the firms active in the BC wholesale market might have market power, as will be discussed in the following sections.**

[154] Oral Workshop Transcript Volume 1, pp. 483-484.
[155] Exhibit A2-1-1, p. 35.
[156] Oral Workshop Transcript Volume 1, p. 142.
[157] Ibid., pp. 167-168.
[158] Ibid., pp. 150-151.

Imperial Oil agrees that it is the marginal barrel that sets the wholesale price and noted it considers itself more efficient than the marginal unit.[159] This means that, even if Imperial Oil could be supplying more units into BC under less constrained conditions, the wholesale price would remain the same unless those units became the new marginal price setter.[160]

Panel Findings

There is an implicit assumption by Parkland's expert and other parties that Source 4 is a separate supplier. However, we have previously found that given the control of the gasoline and diesel distribution system, there are, in effect, only five suppliers. Between them, they import all of the "marginal barrels".

For example, Imperial Oil is one of the five suppliers of gasoline to BC and, from the evidence, does so principally from its Alberta refinery, supplementing that supply with gasoline it purchases from the U.S. on an as needed basis. The majority of Imperial Oil's Alberta supply was transported at relatively low cost through TMPL, but is increasingly supplemented by more expensive rail transport. However, the gasoline transported by rail does not come from a new supplier, it is gasoline from Imperial Oil provided to the BC market at a greater cost than that transported through TMPL. Thus, it has the effect of raising the average cost for Imperial Oil to supply a unit of gasoline to BC.

The Panel finds that the analysis of the "marginal barrel" provided by Deetken and with which most participants agree, has applicability to a perfectly competitive market but should be used with caution for the BC gasoline and diesel market.

To apply this "marginal unit" analysis to BC's gasoline market requires the market to be functioning as a perfectly competitive market. Representing a market with a supply curve requires the firm to be a perfect competitor and have no influence over the market price. Each point on the supply curve is the answer to the question "If this firm is faced with this potential price, how much output will it be able to and willing to sell?" If a firm has market power, its decision of how much to supply the market influences the market price, and the firm is not "faced with" any price constraints.[161]

To illustrate, consider a simple example: Widget Co. (Widget) has a widget factory, produces 1, 000 widgets a month and its production cost is 90 cents. If the market price for the widgets is $1.00, Widget makes 10 cents economic profit per widget. Suppose Widget experiences, say, an interruption in raw material supply, and has to purchase 100 widgets at $0.99. Being a price-taker in a highly competitive market, Widget cannot raise the price on the widget it sells by 9 cents. In turn, Widget 's margin shrinks to 1 cent for those 100 widgets.

Suppose Widget has contracts to its customers to provide 1,000 widgets this month. As a price-taker, in the short run, Widget has no choice but to sell 1,000 widgets at a price of $1.00 per unit. Widget will face a reduced profit – now 1 cent per unit as opposed to ten cents per unit on the 100 widgets it had to purchase. However, Widget must consider other factors, such as the contribution that the 100 widgets make to its fixed cost and the importance of satisfying its customers in the short term. Of course, Widget's decision in the long term may be different than in the short term. However, the key point is that the only thing over which Widget has control is the number of units it will produce. Widget has no control over the market price.

[159] Ibid., pp. 267-268, pp. 271-272.
[160] Ibid., pp. 289-290.
[161] Exhibit C1-6, p. 1.

At any given time, there may also be other sellers facing supply challenges such as Widget does, but the market price of widgets doesn't necessarily rise in response, assuming no change in the demand for widgets. However, if all of the sellers in a competitive market face a systemic rise in their input costs – for example inflation – the market price will rise, as suppliers find it impossible not to pass on those costs. In a competitive market, the "invisible hand" as Parkland put it, adjusts the market price accordingly.

Thus, there is a difference between a systemic supply shortage and a short-term shortage faced by one company, such as a refinery turn around, which may necessitate that company sourcing potentially more expensive imported supply on a temporary basis. If the wholesale gasoline market is competitive, a short-term shortage faced by one company should not influence prices.

At issue in this Inquiry is whether the companies that supply wholesale gasoline to BC are operating in a competitive market. If so, they have no direct control over the wholesale price. If one or more of them are short supply that can be provided to the market at a price at which they make an economic profit, they need to decide whether to obtain more expensive supply to meet their contractual obligations in the short term. If, however, they do have control over the wholesale price, the "invisible hand" is no longer at work and they can raise the wholesale price to cover their increased costs.

In a competitive market, suppliers are price-takers. They have no control over the market price. A single supplier's marginal cost going up or down does not have an impact on the market price. However, if the marginal cost for the entire market shifts, then the market price will change.

Returning to Figure 24: Marginal Unit of Supply and Equilibrium Price, the analysis will differ depending on the definition of source. In Dr. Kahwaty's original analysis it referred to a location from which supply was coming – a BC refinery, an import source such as PADD 3, etc. However, a source could also represent a supplier. For example, Parkland referred to itself as an "infra-marginal supplier".[162] Parkland refines gasoline and diesel and also imports gasoline at times when it cannot refine enough to meet its own needs.

If a source represents a wholesale supplier the market is then not subject to a single "marginal barrel" – instead there are a number of suppliers, each with their own cost and each supplier has its own "marginal barrel". A supplier may want to set its price at a point at which it can recover its marginal cost – i.e. the cost of its "marginal barrel" - but in a competitive market, that would not be possible. For example, Widget is not able to increase its prices to cover unexpected cost increases without risking losing its customers.

In this Inquiry, the evidence is mixed on how suppliers recover increases in their marginal costs. At times they seem to absorb those costs, as Widget does. For example, Parkland states that when facing temporary crude shortages and has increased costs, it is not able to recover those additional costs because it is an infra-marginal supplier and must absorb any costs associated with crude supply challenges.[163] However, at times an increased marginal cost for one supplier, even a temporary one, appears to set the price for the whole market. Therefore, it is unclear exactly how the theory of the marginal barrel, as described by Dr. Kahwaty, applies to this market.

[162] Parkland Final Argument, p. 8
[163] Ibid.

We will not attempt to answer this question. However, we will examine how wholesale prices are actually established and determine whether the five suppliers have the ability to control the price. In doing so, the questions we will address are:

1. What control, if any, do the five Oil Companies have over the BC wholesale gasoline and diesel market, individually or jointly?
2. Is there evidence of prices that diverge from what would be expected from more competitive markets?

In the next subsection, we examine the level of market concentration regarding the first question above, as well as other indicators, to assess whether the market is competitive. Many markets exhibit some degree of market concentration - for example Boeing/Airbus supplying wide body aircraft. In itself this doesn't necessarily imply a lack of competition. Therefore, in Section 6.5 we review the price setting mechanism to determine what influence, if any, gasoline suppliers have over the setting of wholesale prices. In doing so, we will consider the evidence on the quantity, timing and provenance of BC's imports to assess from where the marginal barrel is coming.

With regard to the second question, in Section 6.7 we compare wholesale prices in the BC wholesale gasoline market with the price of that imported supply in order to determine whether any price differentials are those we would expect under perfectly competitive conditions.

6.3 Is the gasoline and diesel wholesale market competitive?

6.3.1 Market concentration

There are two methods generally applied to test the degree of competition within a market: the Four Firm Concentration Ratio test and the Herfindahl-Hirschman Index. For customers, low concentration is generally desired in a market because it is a signal of high levels of competition.[164] The CR_4 measures the total market share of the four largest firms in an industry. The CR_4 test is a common method to identify the degree to which an industry is concentrated. If 90 percent or more of a market is controlled by four firms, it is considered to be highly concentrated, or, oligopolistic.[165] The CR_4 measurement can be understood as follows:

Table 10: Four Firm Concentration Ratio

Market Concentration Level	CR_4 Value
Low concentration	Between 0% and 40%
Moderate Concentration	Between 40% and 70%
High Concentration	Between 70% and 100%

The primary drawback on the CR_4 test is that it does not capture shifts in market concentration amongst the top four firms. A second measure of market concentration which can capture the differences between concentration levels among top firms is the HHI. The HHI calculates a score based on the squared market share of each firm.

[164] Exhibit A2-1-1, p. 19.
[165] Exhibit C1-2, p. 18.

Table 11: Herfindahl-Hirschman Index[166]

Market Concentration Level	HHI Value
Low concentration	Below 0.15
Moderate concentration	Between 0.15 and .25
High concentration	Above 0.25

As outlined above, all of the gasoline sold at the wholesale level in the province is sold by five companies. Since Husky Energy is the smallest player in the overall BC market, supplying approximately 7 percent of the gasoline and 5 percent of the diesel according to Allan and Eliesen estimates, that supplier is excluded from the Four Firm concentration ratio. As a result, the remaining four firms represent 93 percent of the gasoline supply and 95 percent of the diesel supply in the province, which indicates a market highly concentrated. On a regional basis, Allan and Eliesen asserts that the four largest firms control 100 percent of the Lower Mainland/Vancouver Island market, and Husky Energy exhibits features of a monopoly player in the northern market.

As indicated above, one issue with the CR_4 test is that it does not take into account the relative market shares of the suppliers in a given market. The HHI does. Using assumptions to estimate the relative market shares of the gasoline and diesel wholesale suppliers in BC, Allan and Eliesen derives HHI measures ranging from 2,488 to 4,738 for gasoline and 3,965 to 5,837 for diesel. On a regional basis, excluding Husky Energy, Allan and Eliesen estimates an HHI of 2,827 for gasoline and 4,135 for diesel. Therefore, Allan and Eliesen conclude similarly that these markets are highly concentrated because an HHI of 2,500 or higher indicates such.[167]

Navius, citing NEB data, also concludes that the market is highly concentrated, since about 80 to 90 percent of fuel supplied to the Lower Mainland / Vancouver Island is controlled by four firms.[168]

Dr. Kahwaty disagreed with Allan and Eliesen's calculation methods and stated

> by ignoring gasoline supply from PADD 2, PADD 3, PADD 5 and other sources, and by ignoring diesel supply from PADD 2, PADD 5, other parts of Canada and other sources, the Allan and Elisen market share and market concentration figures have no economic validity and are unreliable.[169]

Dr. Kahwaty calculates that the joint share of the BC market served by the four largest suppliers is about 74 percent for gasoline and 69 percent for diesel, which "are far below the 93 percent figure reported by Allan and Eliesen for gasoline and the 95 percent figure they reported for diesel". Dr. Kahwaty also notes that without knowing the market shares for each market participant, HHI calculations cannot be made.[170]

However, Dr. Kahwaty provided clarification, based on a hypothetical example suggested by the Panel. If Parkland was the only supplier of gasoline in BC and it refined 90 percent itself and purchased the other 10 percent from the U.S. for resale into BC, Parkland would be viewed as one supplier serving 100 percent of the market.[171]

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[166] Alternatively, HHI values can be expressed as whole percentages where the index ranges from 0 to 10,000 "points."
[167] Exhibit C1-2, pp. 18-19.
[168] Exhibit A2-2, p. 15.
[169] Exhibit C5-23, p. 2.
[170] Exhibit C5-23, pp. 2-3.
[171] Oral Workshop Transcript Volume 4, pp. 694-696.

Panel findings

Looking at the southern, most populous part of the province, at first blush, the Panel agrees with Allan and Eliesen that the four largest refiners (excluding Husky Energy) seems to control 100 percent of the market. This is so, in part, because they own all of the wholesale distribution infrastructure at primary terminals and do not make it available to third parties. This was shown in Table 8.[172]

However, that table also showed that FCL has 11 bulk terminals. We note that FCL supplies to TEMPO, Save-On Gas and Coop branded retailers. TEMPO stores are "locally-owned resellers of petroleum products such as fuel and lubricants, and have included convenience stores, diesel and propane, service bays and car washes (offerings may differ by location)."[173] Save-On Gas "is a brand name owned by Peninsula Co-op and is currently used at four locations on Southern Vancouver Island. These locations are independently owned and although Peninsula Co-op does not operate these locations, Peninsula Co-op supplies them with their petroleum products".[174] The evidence indicates that FCL's share of supply is 5.6 percent.[175]

In the above analysis, the market concentration measure is based on the ownership of gasoline as it enters the provincial distribution system – through Primary Terminals. While gasoline may be owned by other parties when it is transported into the province, ownership transfers to the companies referred to above at the Primary Terminals.

With regard to the wholesale market in BC, we find Allan and Eliesen's 100 percent estimate to be high. We find that the four firms together control approximately 88 percent of the wholesale gasoline and diesel market in British Columbia and therefore this is an oligopoly.

However, the Panel is also not persuaded by Dr. Kahwaty's arguments against Allan and Eliesen's market concentration estimates for gasoline and diesel. The evidence shows that all imports are brought into BC by these four companies. Just as Widget 's purchase of more expensive widgets from a third-party supplier did not create a new supplier in the market, neither does the presence of imports from PADD 3 an PADD 5 mean that this market is any less concentrated – all products entering the BC market are brought in by the oligopolists.

Furthermore, the Panel notes the Competition Bureau's approach in the case of a group of firms alleged to be jointly dominant: "a combined market share equal to or exceeding 65 percent will generally prompt further examination"[176]. Thus, even using Dr. Kahwaty's original estimates this could justify further investigation using the Competition Bureau's standards.

In its Abuse of Dominance Enforcement Guidelines, the Competition Bureau notes:

> Jurisprudence has often relied on a combination of high market shares and barriers to entry as evidence of market power. While there is no definitive numeric threshold, the Bureau is of the

[172] Staff table derived from Exhibit A2-1, p. 16.
[173] https://www.tempo-canada.ca/sites/tempo/
[174] https://www.peninsulaco-op.com/
[175] Exhibit C5-9, p. 7.
[176] Exhibit A2-21, p. 12.

view that high market share is usually a necessary, but not sufficient, condition to establish the existence of a substantial degree of market power.[177]

The Panel agrees that a highly concentrated market does not, in itself, imply that any one company, or combination of companies, control the market.

Oligopolies differ from price-takers in that they do not have a supply curve. Instead, they search for the best price-output combination.[178] Oligopolies are markets where profit maximising competitors set their strategies by paying close attention to how their rivals are likely to react and, with few sellers, each oligopolist is likely to be aware of the actions of the others.

Competition laws prohibit collusion that raises prices, restricts output or divides markets. But the laws do not prohibit conscious parallelism. Thus, firms in an oligopoly might imitate their rivals' pricing and other competitive behaviour in a process that harms consumer welfare, yet without reaching an explicit agreement.[179] However, in some circumstances, competition between sellers in an oligopoly can lead to an efficient outcome approaching perfect competition.[180]

To illustrate, consider a wholesale gasoline supplier increasing its price, say, because it was forced to use a more expensive transportation method on a temporary basis, and the reaction of a competitor was to match that price, even though it was faced with no similar cost pressure. That is not as favourable an outcome for the customer as it would be if the competitor left its price as-is and attempted to increase supply to make up for the first supplier's shortfall. In that case, the original supplier is faced with either giving up market share or continuing to supply, on a temporary basis, at a loss (or at least a reduced profit) on the marginal unit. This is exactly the choice faced by Widget, a price-taker in a competitive market. However, Widget has no ability to raise its price without reducing market share. Thus, oligopolistic conditions, including the ability of suppliers to see the prices of others, can have the result of driving prices up in circumstances where a competitive market may have driven them down.

6.3.2 Other key characteristics of the wholesale gasoline and diesel market

Allan and Eliesen suggest that "further analysis needs to be undertaken to determine if the market is operating efficiently and effectively in spite of the apparent ability of the market players to exert power over price." They suggest that further analysis needs to include:

i) an evaluation of the ease of entry into the market;

ii) the likelihood that new entrants could significantly supply the market; and

iii) whether the characteristics of the industry lend themselves to benefits from uncompetitive behaviour.

While there is no universally accepted test for market control, the Panel finds these criteria are helpful as a starting point to assess the likelihood that suppliers in the BC wholesale gasoline and diesel market exercise market power. We therefore now consider these factors.

[177] Exhibit A2-21, p. 11.
[178] *Foundations of Real-World Economics*. page 103. Routledge 2019.
[179] OECD Policy Roundtables, Oligopoly, 1999 https://www.oecd.org/daf/competition/1920526.pdf.
[180] https://en.m.wikipedia.org/wiki/Oligopoly.

Ease of Market Entry

A firm or group of firms that attempts to exercise market power may be thwarted by expansion or entry of existing and/or potential competitors on a sufficient scale and scope if expansion and/or entry are expected to be profitable. Thus, the Competition Bureau considers the extent to which barriers to entry or expansion may limit the ability of rivals to respond to any exercise of market power and notes that barriers can take many forms, such as, sunk costs of entry/expansion, regulatory barriers, economies of scale and scope, market maturity, network effects and access to scarce or non-duplicable inputs.[181]

Although not mutually exclusive, there are two ways that new entrants could supply the market:

1. Refining crude oil into gasoline and diesel in British Columbia; and
2. Importing gasoline and diesel into British Columbia.

In Section 5.5 of this report, we found that the five firms that supply wholesale gasoline and diesel own and control the main distribution infrastructure (Primary Terminals). **Combined with the results of the market concentration test, we find this control of the distribution infrastructure gives the wholesale gasoline market characteristics of a natural monopoly.** There is a significant barrier to entry to potential new entrants to the market as their ability to access critical infrastructure that is required to be a viable competitor in the market is limited.

As has already been identified by Dr. Rensing, it would be difficult for a new wholesaler to gain market share, as it would need to develop its own distribution infrastructure, leading to additional barriers, in part economic, but perhaps more so regulatory: to import gasoline, terminals would have to be sited on the coast and in need of regulatory approvals. Similarly, to refine additional gasoline in the province would require environmental approval of new refining capability. Thus, entry into either the refining or importing gasoline and/or diesel is challenging as the permitting process for refineries, marine and other terminals is perceived as risky. Furthermore, the Panel notes that refineries are very capital intensive – in the billions of dollars – and this risk is a disincentive to many investors. Although not as expensive – in the few hundreds of millions – investing in a terminal also poses risk to investors for the same reasons.

The Panel notes that the presence of large economies of scale and scope in the refinery business, where larger facilities are more efficient and able to distribute their fixed costs over a larger number of barrels and products, acts as another barrier to entry. Give the evidence in this proceeding, additional refinery capacity could supply the BC market with gasoline and diesel. However, it would have to be able to do so economically given the alternative sources of supply available. To operate economically would presumably require a market for all of the petroleum products made from crude oil because more than 25 percent of the products made from crude are for those other than gasoline and diesel.

Regarding market maturity, the panel notes that given the recent trends in demand for gasoline in BC combined with predictions for future demand, it is unlikely that more gasoline is required to be imported than is currently imported. Thus, demand for gasoline may seem uncertain to some investors, unlike in other young or growing markets.

[181] Exhibit A2-21, pp. 13-15.

Other regulatory barriers can take the form of tariff and non-tariff barriers to international or domestic trade. Non-tariff barriers in the form of more stringent low carbon fuel standards in BC than those in adjacent jurisdiction may be regarded as an additional barrier to entry, as we've heard from all incumbents that meeting these requirements have increased their costs of doing business. However, given there are no tariffs to importing gasoline to BC from other parts of Canada or the U.S., the Panel notes this is one area where there are no barriers to entry. In spite of this, the magnitude of other barriers is substantial.

Thus, the Panel finds that significant barriers to entry would confront any new potential entrant into the wholesale and diesel market in BC.

The likelihood that new entrants could significantly supply the market

The Competition Bureau explains that, in addition to considering the market shares of current sellers of relevant products, it may also consider the shares of potential sellers that would participate in the market through a supply response if prices rose by a small but significant and non-transitory amount. In such case, a firm could be considered a participant in the market if significant sunk investments are not required to enter, and it could rapidly and profitably divert existing sales or capacity to begin supplying the market in response to such a price increase.[182]

The Panel previously found that it is not easy for new sellers to enter the wholesale gasoline and diesel market in BC due to the presence of significant barriers to entry, such as control of the distribution infrastructure, sunk costs, regulatory barriers, market maturity, and economies of scale. Furthermore, even if most of these barriers were overcome, it would not be possible for a new entrant to rapidly enter the market and divert sales from incumbents as regulatory approvals for the siting and construction of new terminals or refinery can take a long time. In addition, long term contracts are in place between existing wholesalers and retailers.

For these reasons, the Panel finds a low likelihood of new entrants supplying the market in response to elevated prices. In the Panel's view, this lends credence to the view that the incumbent suppliers of wholesale gasoline and diesel in BC have market power.

The Panel recognizes that in this case, not one firm but a group of firms may hold market power. In the absence of a sufficient competitive constraint from outside an allegedly jointly dominant group, the Competition Bureau explains that if competition among group members is also insufficient to constrain prices to the competitive level, members of that group will be able to jointly exercise a substantial degree of market power. As a result, when assessing joint dominance, the Competition Bureau may accord significant weight to how vigorously the allegedly jointly dominant firms compete with each other. In the absence of vigorous competition, the Competition Bureau may conclude that the lack of mutual competitive constraint permits them to exercise a substantial degree of market power.[183] The Oil Companies argue that the existing wholesale pricing mechanism, which has been explained in the previous section, is competitive and it works. This will be looked at further in Section 6.5.

Whether the characteristics of the industry lend themselves to benefits from uncompetitive behaviour

Generally, a market with many buyers and sellers and characterized by an ease of entry for new sellers will exhibit vigorous price competition and markets that lack one of these conditions may fail to achieve prices that

[182] Exhibit A2-21, p. 11.
[183] Ibid., p. 17.

could be seen under perfectly competitive conditions. The Panel previously found that the BC wholesale market is concentrated in the hands of a few firms and that significant barriers to entry exist that lower the likelihood that new entrants could supply the market and thus, "discipline" the market if the incumbents were to abuse their market power.

Allan and Eliesen state that inappropriate pricing behaviour among suppliers becomes increasingly facilitated in presence of certain market characteristics:

- Relatively low fixed to variable costs in the cost structure;
- Similar cost structures among suppliers; and
- Product or brand differentiation.

Allan and Eliesen state that BC's market exhibits all these characteristics. Coupled with the fact that the market is highly concentrated, Allan and Eliesen suggest that the BC gasoline and diesel market is ripe for unfair pricing practices.[184]

Dr. Jaccard states that "[f]air prices[185] are the prices that would emerge in a market with vigorous price competition. It is generally argued that prices in such markets need not be regulated because they will automatically reach levels that are reasonable. Economic theory provides that vigorous price competition will ensure a given good will be priced at a level that covers the costs of producing the good at the lowest possible cost plus a return on investment commensurate with the risks involved in producing the good.[186]

We now assess whether there is evidence that prices diverge from what would be expected from more competitive markets. The Panel previously found that the BC wholesale market exhibits oligopolistic features. Oligopolies may not be in the public interest because if the firms do not compete aggressively on price, they can:

- Effectively act like a monopoly;
- Be inefficient as there is a reduced incentive to lower their costs as low as possible (X-inefficiency);
- Charge different prices to different groups of customers, prices that do not accurately correspond to the different costs of serving these different customers ("price discrimination"[187]); and
- Engage in product or brand differentiation.[188]

First, if the firms in BC were acting like a monopoly, that would mean having the ability to set a price at a level that is higher than the price predicted by economic theory in a perfectly competitive market – where the price is equal to marginal cost. If actual prices are higher than that price they can only be sustained over the long run if new entrants are prevented from entering the market. We consider this issue when examining barriers to entry.

[184] Exhibit C1-2, p. 20.
[185] Exhibit A2-18, p. 49, "Fair prices are here defined as the prices that would emerge in a market with vigorous price competition. It is generally argued that prices in such markets need not be regulated because they will automatically reach levels that are reasonable. By this it is meant that vigorous price competition will ensure that a given good will be priced at a level that covers the costs of producing the good as efficiently as possible (at the lowest possible cost), including a return to invested capital that reflects the risks involved in producing the particular good in question. Thus, competitive markets could result in what seem like very high profits for certain activities in certain circumstances, but these high returns may simply reflect a willingness to accept higher risks."
[186] Exhibit A2-18, p. 49.
[187] Price discrimination here is used as it is in the study of Economics and is not to be confused with the legal definition, which is a criminal offense under the *Competition Act*, requiring strict standard of proof.
[188] Exhibit A2-18, pp. 50-51.

Second, the X-inefficiency is the divergence of a firm's observed behavior in practice, influenced by a lack of competitive pressure, from efficient behavior assumed or implied by economic theory. If all firms in the industry tend to be inefficient due to lack of competitive pressure, the X-inefficiency will be difficult to demonstrate as there is no other competitive benchmark.

Third, if suppliers in the wholesale market were engaging in price discrimination, the returns from such practices may show up as higher profits, X-inefficiency, or cross-subsidies between products sold by the firm. From a public interest perspective, price discrimination is an issue as it will lead to prices that are different from those that would exist under more competitive conditions, and provide incorrect price signals about costs in that industry. The next sections will look at how companies set their rack prices and whether there are differentials in refining margins between BC and nearby jurisdictions that are not fully explained by the cost to transport the fuel and meeting the BC-specific regulations. If so, that is evidence of economic price discrimination and the lack of a competitive market.

Fourth, when firms do not compete on price and do not have the same incentives to reduce costs, they tend to aggressively engage in product or brand differentiation through advertising and loyalty programs to convince customers that their product is somehow different than that of their competitors. The Panel agrees with Allan and Eliesen that, while this characteristic is present in this market as it is in many other markets, it is the least compelling reason to conclude that there are inappropriate pricing practices.

6.4 Opportunity Costs and Arbitrage Opportunities

Imperial Oil also pointed out that one must consider the alternatives that exist for that last unit if a decision is made to ship product into the BC market to meet demand.[189] Other parties made similar points.[190]

Consider the following example: if the wholesale price in BC is lower than the wholesale price in Washington state (after allowing for transportation and other costs related to shipping to Washington), gasoline that is refined in BC, or refined in Edmonton and otherwise shipped to BC could be sold instead to customers in Washington state at a higher margin and therefore more profitably. This is an alternative rationale for using the most expensive marginal barrel as the key wholesale price driver in addition to the rationale that the marginal barrel is required to serve the BC market.

The Panel accepts the notion of opportunity cost and acknowledges it may play a role in pricing. However, the issue is not as straight forward as is suggested by Imperial Oil. Just because there is wholesale price at a different location that is above the wholesale price in BC, that location may not be able to absorb a significant proportion of BC gasoline at that price as, many of the suppliers to the wholesale market have long term commitments in BC. Further, they testified that they value their local customers. Therefore, as a practical matter they are not able to divert gasoline to other markets in the short term to achieve a higher price for it. However, if there is a sustained higher price in a neighbouring jurisdiction, there may be an opportunity to divert supply from the BC market to those jurisdictions with a higher price on a longer-term basis.

[189] Oral Workshop Transcript Volume 1, p. 270.
[190] Ibid., pp. 144-149.

In addition, if a monopolist or oligopolist exerts market power in the target market, arbitrage opportunities could be limited.

Therefore, the Panel finds that using an opportunity costs as the basis for pricing may result in wholesale prices that are higher than can be reasonably justified.

6.5 Rack Rate Setting Mechanism

Dr. Kahwaty's analysis of the marginal barrel suggests that the cost of the most expensive supply source is the key determinant of rack price. During this Inquiry, the Oil Companies have explained with varying degrees of detail how they set their gasoline and diesel rack prices in practice. In this section, we review their testimony and consider the appropriateness of the rack pricing methodology.

Imperial Oil explains that its method to set rack prices in BC is the same as the one used to set rack prices in other parts of the country. Rack prices are determined by the unique characteristics of supply and demand in each region and, in this regard, BC is exceptionally difficult to serve. Imperial Oil made a point to state that its wholesale price methodology is not margin-driven and that the cost of its crude input does not factor into its rack price. Imperial Oil considers five things when setting its rack prices:

1. The PNW benchmark is a fair starting point because it is considered to be the best independent evaluation of what the price of diesel and gasoline should be given the liquidity at that trading hub and it is likely the source of the marginal unit;
2. Exchange rate;
3. Logistics related to shipping the marginal unit to the Vancouver or BC market – it may not be Imperial Oil's logistics, unless Imperial Oil is the source of the marginal unit;
4. Localized factors that either helps or impedes a business to operate in a certain area (e.g. transportation and storage, regulatory compliance costs (e.g. LCFS) and supply disruption; and
5. Competition: the real check to see whether the previous four steps have produced a competitive rack price. Customers' feedback as well as information on other rack prices through price services help Imperial Oil adjust its rack price to be competitive.[191]

In a similar fashion, Parkland considers the following factors in setting its Vancouver wholesale prices:

1. Market supply and demand: as supply tightens, bidders are willing to pay higher prices to avoid product run-outs and shortages;
2. Local market competitiveness; and
3. Benchmark spot prices for finished products: the PNW is the closest actively traded marketplace and is incorporated by Parkland when setting its rack prices.[192]

In Parkland's view, the biggest factor affecting the level and changes in the Vancouver rack of gasoline and diesel prices is the availability of supply.[193] Parkland explained that the wholesale prices for its refined products are based on independent market dynamics impacted by the broader West Coast (PADD 5) refined products

[191] Exhibit C8-2, p. 7; Oral Workshop Transcript Volume 1, pp. 272-278.
[192] Exhibit C5-2, p. 57.
[193] Ibid., p. 56.

marketplace (supply, inventory and demand). This actively influences the price that refined products produced at the Burnaby refinery can be sold for in the market.[194] Since Parkland can only serve about a quarter of the BC market and the rest is served by refineries in Alberta, Prince George (Husky Energy) and the US, Parkland pays close attention to these markets when it prices its goods because other parties can bring in these products by truck, rail or marine vessel.[195]

Shell also states that the general factors that govern the level and changes to wholesale prices of gasoline and diesel relate to supply and demand dynamics. On the supply side, refinery capacity and availability (impacted by planned and unplanned maintenance and operational upsets) and, on the demand side, the seasonality of demand, would affect wholesale prices.[196]

When setting its rack prices, Suncor explains that it looks at North American benchmarks from various independent reporting agencies, such as Argus Media and OPIS. The price for gasoline and diesel in the PNW and Chicago as reported by OPIS are the main benchmarks that Suncor references to help determine wholesale rack prices in BC. As these U.S. benchmarks are priced in U.S. dollars, prices in BC are also influenced by the exchange rate.[197] Suncor confirmed that it references the Chicago price as reported by OPIS when setting its Edmonton rack prices.[198]

Dr. Kahwaty suggests that the competitiveness of the wholesale market ensures the rack prices are competitive. He offers the following examples to support this contention:

- A wholesale provider that sets its rack in a manner that would lead to above-market transaction pricing would see diminished sales and harm to its brand;
- For sales under long-term contracts, a rack that would lead to above-market transactions prices would lead to diminished sales in the near term as downstream retailers supplied by the wholesaler are competitively-disadvantaged relative to its retail rivals; and
- In the long run, pricing to dealers at above-market rates would lead dealers to switch suppliers over time when contracts are up for renewal, eroding a wholesaler's business. Parkland, Shell, and Suncor supply a total of over 200 dealer stations in BC; Imperial Oil serves numerous dealers as well. Developing a reputation for charging above-market rates would erode their dealer supply businesses.[199]

Parkland echoed these comments: "…we have to be competitive to be in business. The length of contracts depends frankly on each individual contract and can be anywhere from days and weeks to months and years, subject to the nature of the agreement. So marketers have the flexibility outside of those contracts when those contracts come due to shop their business. We're in the market looking for new business, like others in this room would be, on a regular basis."[200] Both Super Save and 7-Eleven confirmed that, while there is no flexibility during the contracts to move between suppliers,[201] they have the flexibility to switch from one supplier to another if they think they can be more competitive at the expiry of their contracts.[202]

[194] Exhibit C5-2, p. 41.
[195] Oral Workshop Transcript Volume 1, pp. 113-114.
[196] Exhibit C10-2, p. 6.
[197] Oral Workshop Transcript Volume 2, pp.302-303.
[198] Oral Workshop Transcript Volume 4, pp. 702-703.
[199] Exhibit C5-9, p. 14.
[200] Oral Workshop Transcript Volume 4, pp. 662-663.
[201] Ibid., pp 733-734, 736.
[202] Ibid., pp. 752-753.

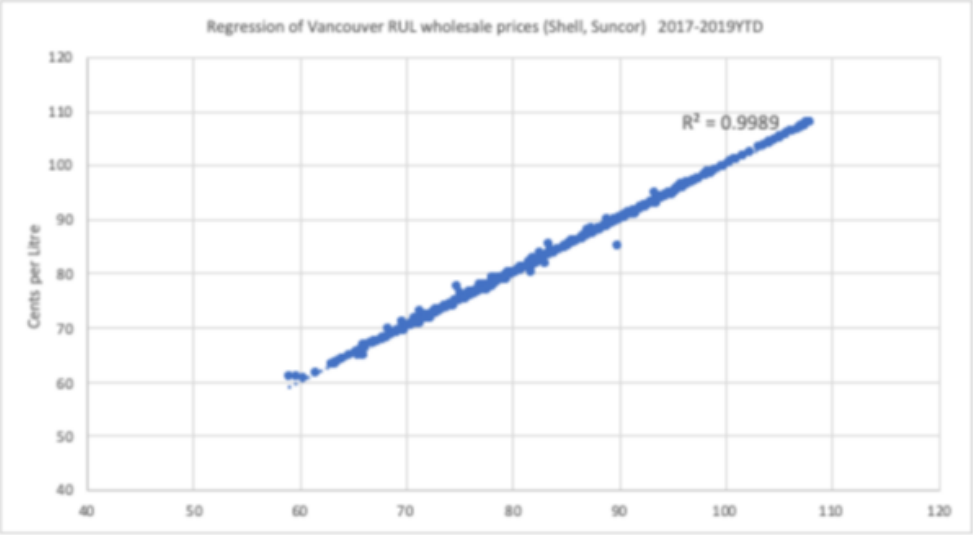
Competitive pressures also appear to be present for Suncor with respect to the fuel it supplies to unbranded retailers. The company states that the terms and conditions of the agreements, while varying from one customer to the next, may allow the retailer a level of flexibility and even full flexibility to source fuel from other suppliers during the term of the agreement.[203] Imperial Oil concurred with others that the wholesale markets in BC and Vancouver are very competitive and cautioned that intervention in a free market disrupts the supply and demand dynamic and often has unintended consequences[204].

For its part, Super Save does not believe there is competition at the rack at all and suggests that the remedy would be to negotiate crude related contract.[205] In their 1996 submission, Super Save submitted that, after their crude related contracts expired, the only choice for an independent was to buy wholesale gasoline at the rack price, a price which appeared to be much higher than the major oil companies had been willing to accept in the formula-driven crude related contract.

Husky Energy is in a category of its own as it uses other available posted racks for Prince George as a basis for pricing.[206] As for the others, their method to set the rack price share similarities. It stated that it typically does not experience challenges in sourcing supply. But at times of product shortfall when it needs to source alternative supply, it often buys delivered products from a third-party trading company and as a result, it does not know the original source of that product.[207]

Advanced Biofuels provided an analysis based on daily prices reported for Shell and Suncor by the Kent Group for regular unleaded gasoline (RUL) in Kamloops, Vancouver, and Nanaimo for the period January 1, 2017 and August 13, 2019. The results for Vancouver rack for Shell and Suncor are shown in Figure 25.

Figure 25: Vancouver RUL Inter-Rack Wholesale Price Regression 2017-2019



[203] Oral Workshop Transcript Volume 4, p. 706.
[204] (Oral Workshop Transcript Volume 1, pp. 266-267 & 283.
[205] Oral Workshop Transcript Volume 4, p. 735.
[206] Oral Workshop Transcript Volume 2, pp. 534-536.
[207] Ibid., p. 545.

Advanced Biofuels state that "[a]ll three BC racks demonstrate high internal correlations, above .99. In somewhat simplified terms, over 99 percent of the change in one rack price is explained by the movement of the other rack's price. Put simply, these racks move in unison".[208]

Panel Findings

Dr. Kahwaty suggests that the rack price of gasoline is based on the "marginal barrel". However, it is not clear upon whose "marginal barrel" it is based. Is it an individual participant's marginal barrel or is it a global marginal barrel?

In this Inquiry there was a considerable amount of confidentiality concerns around, among other things, each participant's supply contracts. Therefore, presumably participants generally don't know what the global marginal barrel is at any particular time. How does the rack price match the cost of the marginal barrel – the barrel from the most expensive supply source – if there is no knowledge of what that supply source is?

For example, Imperial Oil admits that in almost all cases when it tries to model the marginal cost of supply using the above steps, it is wrong as "there is always something that we just don't see…a customer tells us 'oh, product was moving in through this import hub that you guys weren't even aware of.'"[209]

However, they do have knowledge of their own marginal barrel and are aware of the posted rack prices. This access to wholesale price information provides suppliers of wholesale gasoline the opportunity to adjust their prices up or down in response to their competitors. In this case, in order for the Rack price to converge on the most expensive marginal barrel as asserted by Parkland's expert Dr. Kahwaty, the adjustment would need to be upward.

In its Final Argument, Parkland stated that "[t]he Inquiry Panel, at times, appeared troubled by how market participants know what the marginal source of supply cost is, given that it is constantly changing", and suggested that that "competitive market forces are called the "Invisible Hand" for good reason – the price is determined by price signals that may not be readily apparent to an observer".

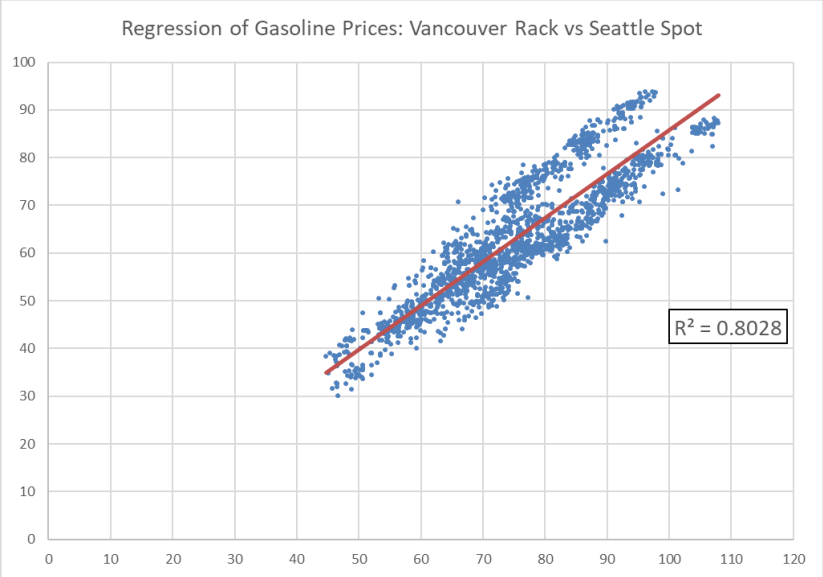
The Panel finds that the rack price is not set by the "invisible hand", but by the refiners. However, we find that the rack price is not set according to Dr. Kahwaty's theory. If Dr. Kahwaty is correct, prices would converge on the cost of the most expensive source of supply. The evidence does not support this hypothesis.

Instead, the evidence in this Inquiry demonstrates that rack prices in BC are set by participants at least once a day in the wholesale market as they observe a number of published prices – for Southern BC primarily the PNW spot prices.

The four companies participating in the Inquiry generally agree that the PNW spot price is the primary driver of the rack price for Vancouver and southern British Columbia. The graph below shows that 80 percent of the variation in the Vancouver gasoline rack prices can be explained by the PNW spot prices as reported by OPIS:[210]

[208] Exhibit C6-7, pp. 3-4.
[209] Oral Workshop Transcript Volume 1, p. 286.
[210] Exhibit A2-29.

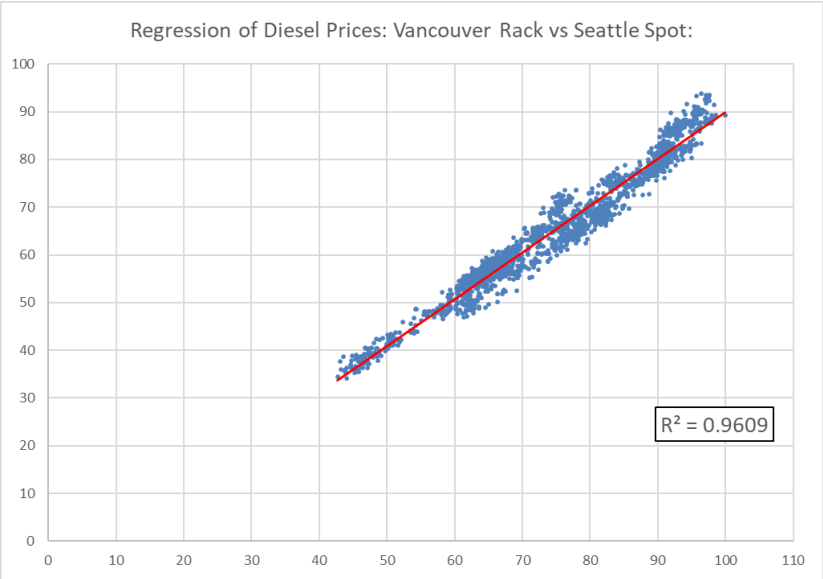
Figure 26: Regression of Gasoline Prices - Vancouver Rack vs Seattle Spot[211,212, 213, 214]



With respect to Vancouver diesel rack prices, a higher proportion of its variance can be explained by the PNW diesel spot prices than gasoline as shown in the following graph:[215]

[211] Exhibit A2-29, p 4.
[212] Prices are based on average daily prices reported by Oil Price Information Service (OPIS): Pacific Northwest, Sub-Octane Unleaded Regular (FOB Seattle), Full Day Average Prompt(¢/gal); Vancouver, Average, Unleaded.
[213] Currency converted based on the U.S. Federal Reserve Economic Data - Canada/U.S. Foreign Exchange Rate, Canadian Dollars to one U.S. Dollar, Daily, Not Seasonally Adjusted, retrieved from https://fred.stlouisfed.org.
[214] 1 U.S. Gallon = 3.7854 Litres.
[215] Exhibit A2-29.

Figure 27: Regression of Diesel Prices - Vancouver Rack vs Seattle Spot[216,217, 218, 219]



The Panel finds that the primary reference used by the wholesalers for rack prices in Southern British Columbia is the PNW spot price. Husky Energy noted that the refining margin in Prince George for gasoline and diesel typically follows the market in Edmonton as that is the main supply location (other than Husky Energy's operation) for central and northern BC. Therefore, for Kamloops and northern BC, the marginal unit we consider is Edmonton.[220]

The PNW spot price influence is significant as observed in the regression results of the Vancouver rack prices and the PNW spot price for both gasoline and diesel. Section 6.7 will look at whether the prices behave like they should under competitive conditions, i.e. that the prices in Vancouver and PNW should be the same after taking into account transportation costs and the cost of meeting BC's fuel regulations.

However, the evidence indicates that the actual price is influenced by the nearest price at the nearest location with a posted price.

6.6 Drivers of Gasoline and Diesel Rack Rate Price

6.6.1 Seasonality

The seasonality of gasoline as a factor affecting prices was also noted by most participants.[221]

[216] Exhibit A2-29, p 4; Exhibit A2-29-1, p. 1.
[217] Prices are based on average daily prices reported by OPIS: Pacific Northwest, Ultra Low Sulfur No 2, Full Day Average Prompt(¢/gal); Chicago, Ultra Low Sulfur No 2, Full Day Average Prompt(¢/gal); Edmonton, Average, ULSD; Vancouver, Average, ULSD
[218] Currency converted based on the U.S. Federal Reserve Economic Data - Canada/U.S. Foreign Exchange Rate, Canadian Dollars to one U.S. Dollar, Daily, Not Seasonally Adjusted, retrieved from https://fred.stlouisfed.org.
[219] 1 U.S. Gallon = 3.7854 Litres.
[220] Oral Workshop Transcript Volume 4B, p. 22; Exhibit C7-2, p. 2.
[221] See for example: Exhibit C2-2, p. 4; Exhibit C5-2, Appendix A, p. 10; Exhibit C7-2, p. 3; Exhibit C8-2, p. 4; Exhibit C9-2, p. 7; Exhibit C10-2, PDF pp. 4 and 6; Exhibit A2-1-1, Appendix 2, p. 76.

Demand

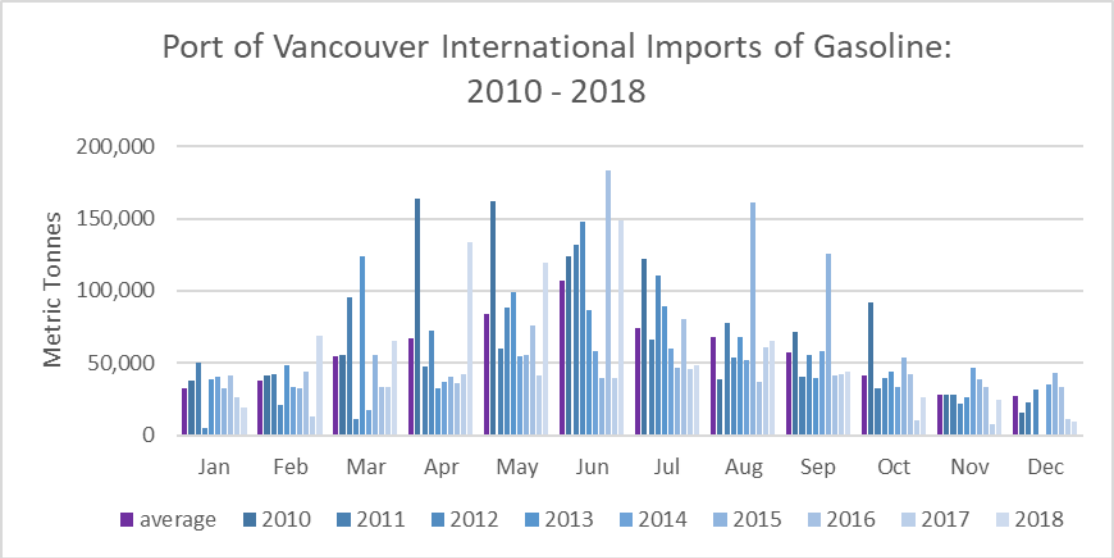
The demand for both diesel and gasoline is generally considered to be seasonal. Gasoline demand is greater in summer when people drive more frequently and less in winter, whereas diesel demand is greater in winter and less in summer. [222] Similarly, gasoline prices tend to gradually rise in the spring and peak in late summer and decline in winter months. [223] Participants stated they were unaware of any changes in seasonal demand since 2015.[224]

There is no evidence to suggest that seasonal variations in demand of gasoline have changed significantly since 2015, and therefore the Panel finds it has not contributed to the growing differential between retail and wholesale margins in BC and the rest of Canada.

Supply

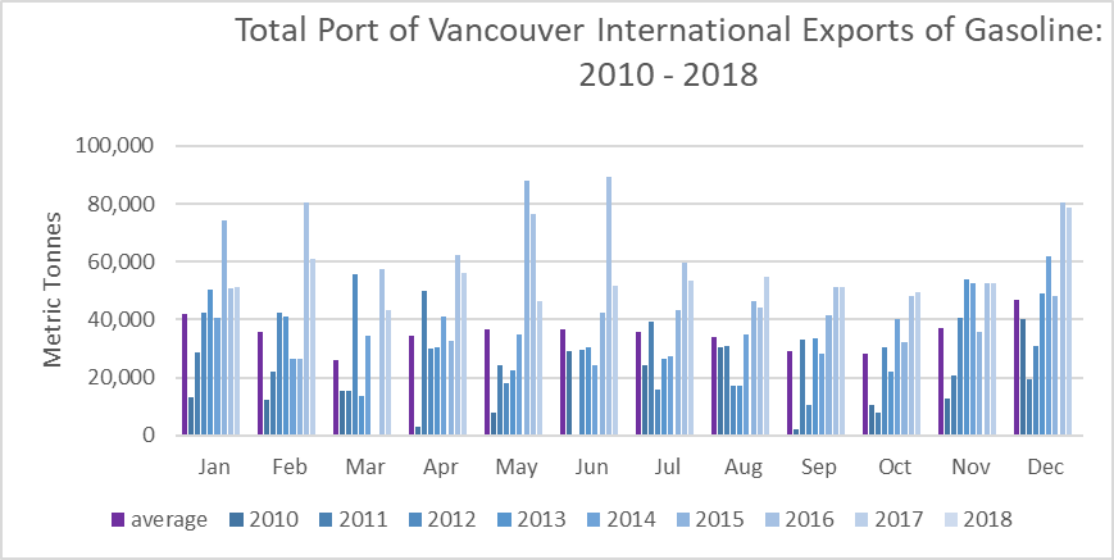
The supply for gasoline and diesel does not appear to be seasonal because refiners try to operate at a constant volume to be economically efficient. Since demand in BC is seasonal this means that the refiners that typically supply the BC market tend to export (usually to the US) excess gasoline in the winter and import (again generally from the US) in the summer. Port of Vancouver statistics also suggest that refiners export excess winter gasoline to the US when demand is low and import in the summer when demand is high. [225]

Figure 28 - Port of Vancouver International Imports of Gasoline[226]



[222] Ibid.
[223] Ibid.
[224] See for example: Exhibit C2-2, p. 4; Exhibit C7-2, p. 3; Exhibit C8-2, p. 4; Exhibit C10-2, PDF p. 4.
[225] Exhibit C1-5, Port of Vancouver International Exports and Imports data.
[226] Graph based on Port of Vancouver data submitted in Exhibit C1-5.

Figure 29 - Port of Vancouver International Exports of Gasoline[227]



An appreciable change to the above seasonal behavior has not been observed since 2015 in the evidence and is not expected to influence the change in retail or wholesale prices. Therefore, **the Panel finds that seasonal supply changes have not contributed to the growing differential between retail and wholesale margins in BC and the rest of Canada.**

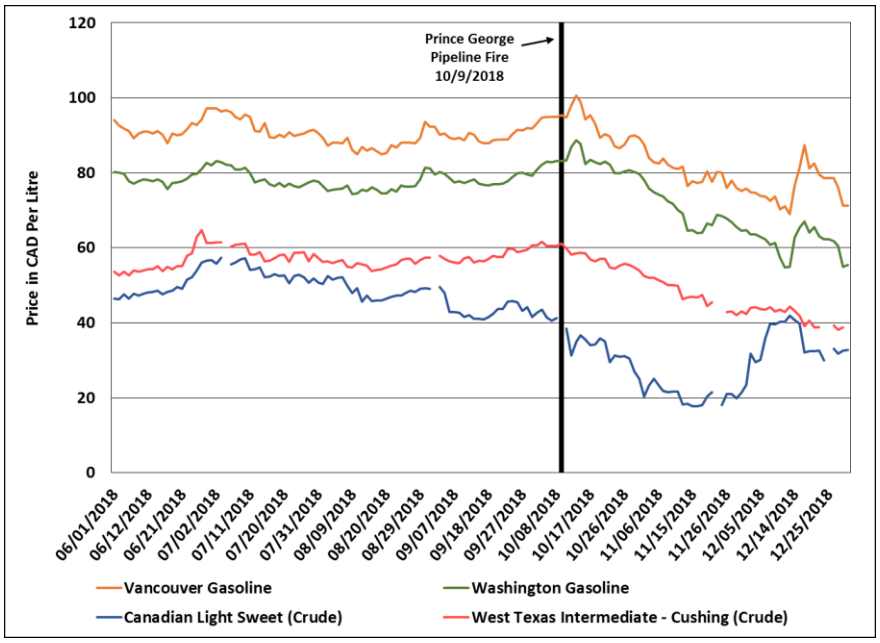
Some interveners submitted that one significant seasonal variation in BC which affects supply is the switch between the selling of winter gasoline and summer gasoline.[228] This usually involves switching from a more volatile gasoline (higher Reid Vapor Pressure) to a lower volatility fuel, and further such changes in the composition of the gasoline are set by Government of Canada regulation.[229] Interveners submit that these seasonal changes add to the cost of gasoline because of the different oxygenates summer gas contains and because refineries briefly shut down every year before they begin processing it.[230] However, the Panel observes that these regulations have not changed since 2015 and are applicable across Canada and similar requirements are in place in nearby jurisdictions in the US, such as Washington and Oregon. Further, there are large parts of the year when neighbouring jurisdictions have stricter vapour pressure regulation. In short, **the Panel finds that these vapour pressure requirements cannot explain the growing differential in retail or refining margins.**

6.6.2 Unplanned events

Unplanned events in and outside BC can also affect rack prices of gasoline in BC. For example, the Prince George pipeline fire in October 2018 resulted in a shortage of natural gas supply to run the Washington state refineries which were then taken off line. This resulted in the Washington rack going up. Those refineries are also supplying products into BC and the scarcity of supply in Washington may have reduced the volume that would have otherwise been shipped to BC. This resulted in a new more expensive marginal source of supply in BC as markets find a new equilibrium. The Vancouver rack prices went up as a result.[231] The figure below shows how tightly the Vancouver and Washington racks are related in relation to this event.

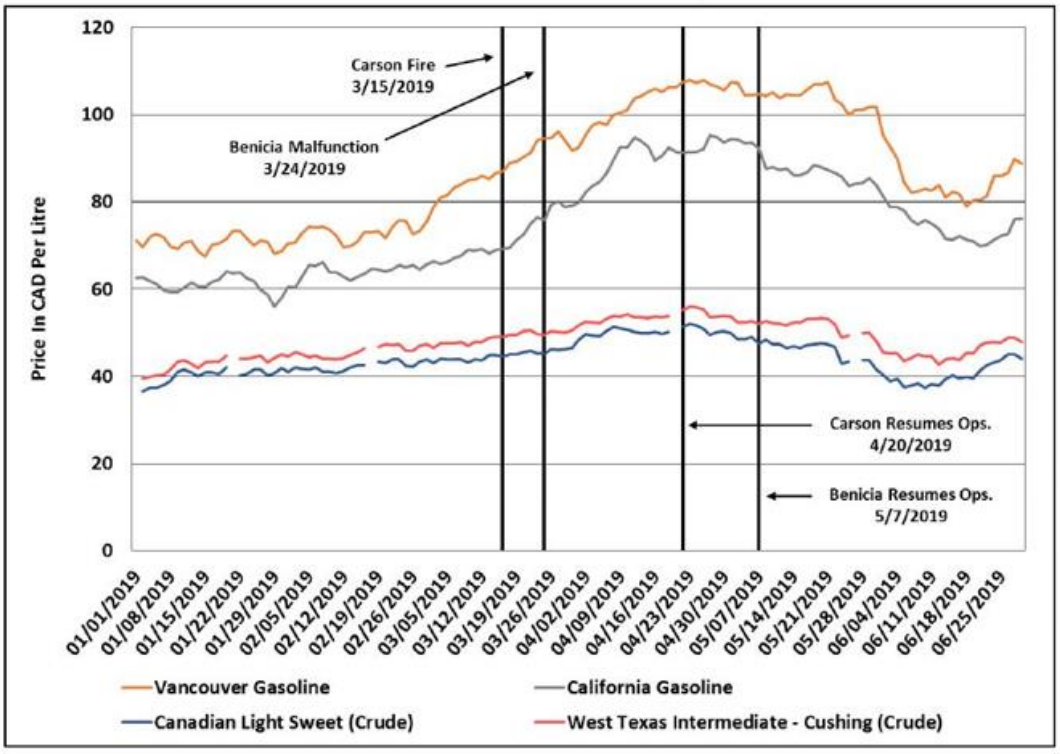
[227] Graph based on Port of Vancouver data submitted in Exhibit C1-5.
[228] See for example: Exhibit C9-2, p. 9; Oral Workshop Transcript Volume 2, p. 540.
[229] Exhibit A2-1-1, Appendix 2, p. 76.
[230] See for example: Exhibit C9-2, p. 9; Oral Workshop Transcript Volume 2, p. 540.
[231] Oral Workshop Transcript Volume 1, pp. 175-176.

Figure 30 - Prince George Pipeline Fire – Gasoline Wholesale and Select Crude Prices, H2 2018



The California refinery shutdowns in the first half of 2019 also provides an illustration of the interconnectedness of markets.

Figure 31: California Refinery Shutdowns – Gasoline Wholesale and Select Crude Prices, H1 2019



Although the Vancouver and California rack prices moved in the same general direction after the shutdowns and the resumption of the operations, they are not as tightly related as the Vancouver and Washington rack prices.[232] Markets are all linked because the barrels can move from one market to the next so supply disruptions in one market will have ripple effects in another market in terms of price increases.

Dr. Kahwaty did a more extensive analysis of the effects of planned and unplanned events with the refineries along the west coast of the U.S. and Canada and came to various conclusions.[233] In summary he found that Vancouver, Washington, and California wholesale prices generally move together, but not necessarily in lock step with each other. For example, the correlation between wholesale regular gasoline prices in Vancouver and wholesale regular gasoline prices in Seattle is 0.92 and 0.98 for diesel. They move together with crude oil prices and in response to shocks to supply, such as refinery outages. Refinery outages and other supply shocks in California, Washington, and Western Canada tend to impact all three wholesale markets. However, the magnitude of the effects tends to be greater in markets that are closer to the supply shock.

The Panel finds that the supply chain on the west coast of the U.S. and Canada is tightly integrated for supply. So much so that any disruption in supply on either side of the border does affect the rack prices throughout the region. The effect tends to be higher closest to where the disruption occurred. For instance, any disruption in supply in Washington state has a larger effect on the prices in BC, than a disruption in California.

6.6.3 Impact of Crude Oil Price on Rack Price

Panel findings

As previously addressed in the report the Oil Companies use various methods to establish a rack price to be used in determining the wholesale price on any given day to a specific customer. In establishing the rack price, no Oil Company said they refer to the price of crude on that day. They specifically state that the price of crude is not a specific consideration in setting rack prices. **However, we find that over time, there is a correlation between the rack price and the price of crude.**

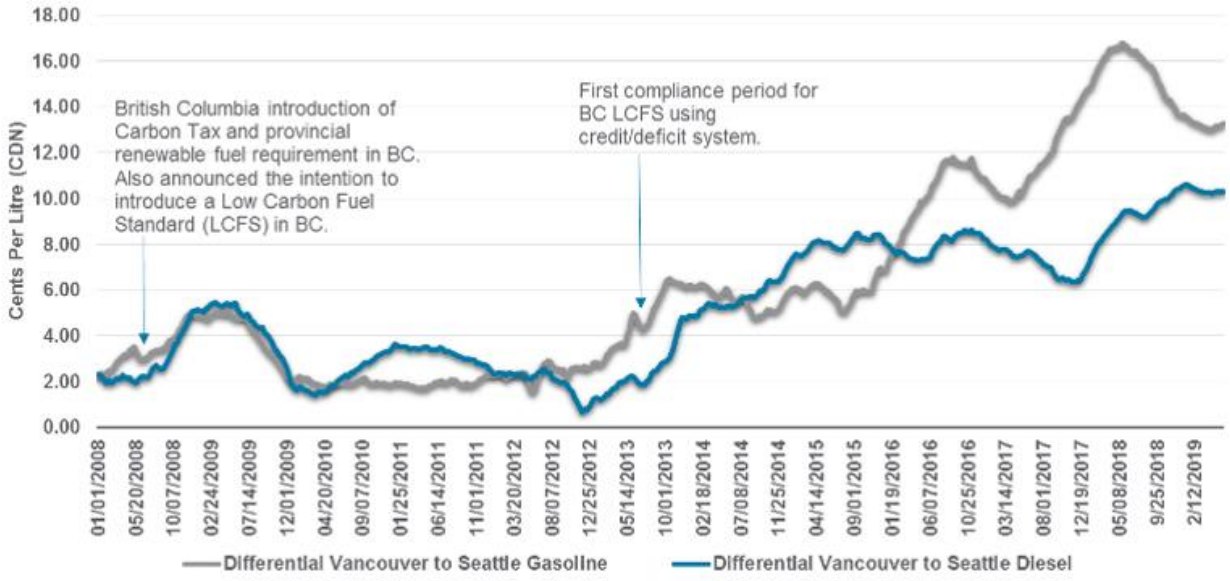
In its Final Argument, Parkland states that, with regard to crude oil price increases, it can only charge a competitive price and must absorb any costs associated with crude supply challenges.[234]However, it also argues that a driver in the cost of gasoline is the price of crude and that BC's prices have been influenced by volatility in crude prices. Additionally, it also argues, along with many other wholesale providers that supply shocks associated with a number of planned turnarounds affect BC's gasoline prices.[235]

6.6.4 Regulatory impact (i.e. low carbon fuel standards) on the rack rate

As discussed in Section 4.4, BC established the LCFS in 2010. It has been argued that the unique nature of this regulation may drive some additional costs in BC in comparison to other nearby jurisdictions. As evidence of this, several submissions have pointed out that a divergence in prices in BC from the rest of Canada and nearby jurisdictions coincided with the introduction of the LCFS. [236]

[232] Oral Workshop Transcript Volume 1, pp. 177-179.
[233] Exhibit C5-28, pp. 7-8.
[234] Parkland Final Argument, p. 8.
[235] Ibid, p. 6.
[236] Exhibit C5-2, p. 8; Exhibit E-42, pp. 20-21.

Figure 32: Difference between Vancouver and Seattle Gasoline and Diesel Wholesale Prices, 2008-2019



Source: Kent Group Pump Price Survey, Bloomberg and Convenience Store Decisions

As detailed in other areas of this report, there are several other factors which have influenced the wholesale price differential over the above time period, therefore further analysis is required to determine the impact, if any, of the LCFS on wholesale prices. Furthermore, it is important to isolate the actual costs associated with the LCFS to understand the impact of those other factors which have been identified and whether there are factors which have not been identified that explain the price differential.

One way of meeting these standards is to purchase biofuels to blend with gasoline and diesel to meet fuel mixing requirements (Part 2 of the LCFS) and carbon intensity targets (Part 3 of the LCFS). Some interveners submit that biofuels that meet carbon intensity standards typically have higher unit cost compared with gasoline and diesel. [237] Evidence submitted in the Inquiry suggests that the price of ethanol compared with wholesale gasoline prices has been lower for some time, and further the differential between the two has grown in recent years.[238] When adding the cost of transportation, the evidence suggests that the ethanol requirements would have added around 1 cent/litre to wholesale gasoline prices from mid-2015 to the end of 2017, and reduced wholesale prices by approximately 1 cent/litre since 2018.[239]

Another avenue of compliance which interveners cite as increasing the production costs for refiners selling into the BC market is the purchasing of compliance credits to comply with the LCFS. In lieu of lowering the carbon intensity of fuels, participants may purchase credits on the open market, where firms can bid to buy credits that go towards satisfying carbon intensity targets. Evidence submitted in the Inquiry suggests that purchasing compliance credits is the most expensive source of compliance. Submissions by interveners indicate that the price of credits can be in excess of $200 / MT or 1.5 cents/litre. Estimates by Deetken for the cost of compliance credits have ranged from 1 cent/liter to 4 cents/liter for gasoline and 0 cent/liter to 3 cents/liter for diesel.[240]

[237] Exhibit C5-2, Appendix A, p. 5.
[238] Exhibit A2-1-1, pp. 54-55.
[239] Ibid., p. 56.
[240] Ibid., p. 58.

Several interveners indicate that costs associated with storage capacity have also caused upward price pressure. It stands to reason that the requirement to store and blend more renewable fuels will necessarily increase storage tank requirements.

In Deetken's analysis, they conclude that costs associated with storage capacity associated with mixing ethanol do not explain the growing differential between wholesale prices in BC and those in Edmonton or Seattle because similar mixing requirements (5 percent and 10 percent ethanol, respectively) apply across these jurisdictions.[241]

Interveners also noted there are operational costs, such as the staffing and technical requirements associated with the collection and reporting of data, which is necessary to comply with the LCFS.[242] However, companies participating in the Inquiry did not submit testable evidence to support this position.

6.7 Wholesale Margins

In Section 6.2 we discussed the impact of the marginal barrel as explained by Dr. Kahwaty. We compared this to suppliers in a competitive market that are price-takers and we also outlined the following key questions to be addressed:

1. What control, if any, do the five Oil Companies have over the BC wholesale gasoline and diesel market, individually or jointly?
2. Is there evidence of prices that diverge from what would be expected from more competitive markets?

In answer to the first question above, in Section 6.3.1 we found that the wholesale market was oligopolistic, with some characteristics of a natural monopoly. We also found that barriers to entry are significant and that lent credence to the view that the wholesale suppliers exert market power.

To answer to the second question, this section we will look at the evidence of price convergence of the BC wholesale gasoline and diesel market relative to what would be expected in a competitive market.

In Section 6.2 we expressed some concerns with the appropriateness of the marginal barrel methodology, especially as it relates to temporary supply shortages. Nevertheless, for the purpose of this analysis of price divergence, we assume that the prices are set in the manner described to this Inquiry.

As the evidence shows, Southern Vancouver wholesale prices, are primarily based on the PNW spot price of gasoline and diesel. For Kamloops and Northern BC, the marginal unit we consider is Edmonton. However, on occasion it may switch to PNW we also consider that comparison. In conducting this analysis, we make no comment on the appropriateness of the methodology of using a benchmark or of this particular benchmark.

Later in this section we will review the marginal cost unit and examine those items that must be added to the marginal cost to arrive at the wholesale price and determine whether the existing BC wholesale price can be explained and justified based by these additional factors and costs. If a gap exists we assess whether there are other reasons that can explain this differential. Our findings will ultimately support the conclusions we reach regarding market competitiveness.

[241] Ibid., p. 56.
[242] Oral Workshop Transcript Volume 1, p. 112; Exhibit C5-2, pp. 29-30.

The NEB, using data from the Kent Group, reports that in April 2019 the refining margin portion of regular gasoline in Vancouver averaged 52.1 cents/litre, roughly double the Canadian average refining margin.[243] However, once crude oil reaches tidewater (e.g. Burnaby), it may be more valuable than where the crude index is evaluated (e.g., Edmonton) as the crude now has access to more markets. The differential reflects the transport costs of moving the crude to tidewater (e.g., pipeline tolls, which are observable) but may also include a premium over that cost if access is limited, for instance, by pipeline capacity. Since the *delivered* price of crude to a refinery is not observable, changes in delivered price of crude appear as increases in the refining margin.[244] Deetken suggested that one way to circumvent this problem is to look at wholesale prices rather than the refining margin. An analysis based on wholesale price, without losing any information, would not be skewed by changes in the delivered price of crude.[245]

Dr. Kahwaty concurred that differentials in refining margins would be the same as differentials in wholesale prices for regions which rely on identical crude indices.[246] Using a comparison between Washington state and Vancouver is useful, as the main source of crude for the refineries in each location is essentially the same. Similarly, a comparison between Edmonton and Kamloops is also a good comparison.

6.7.1 Gasoline wholesale price differentials

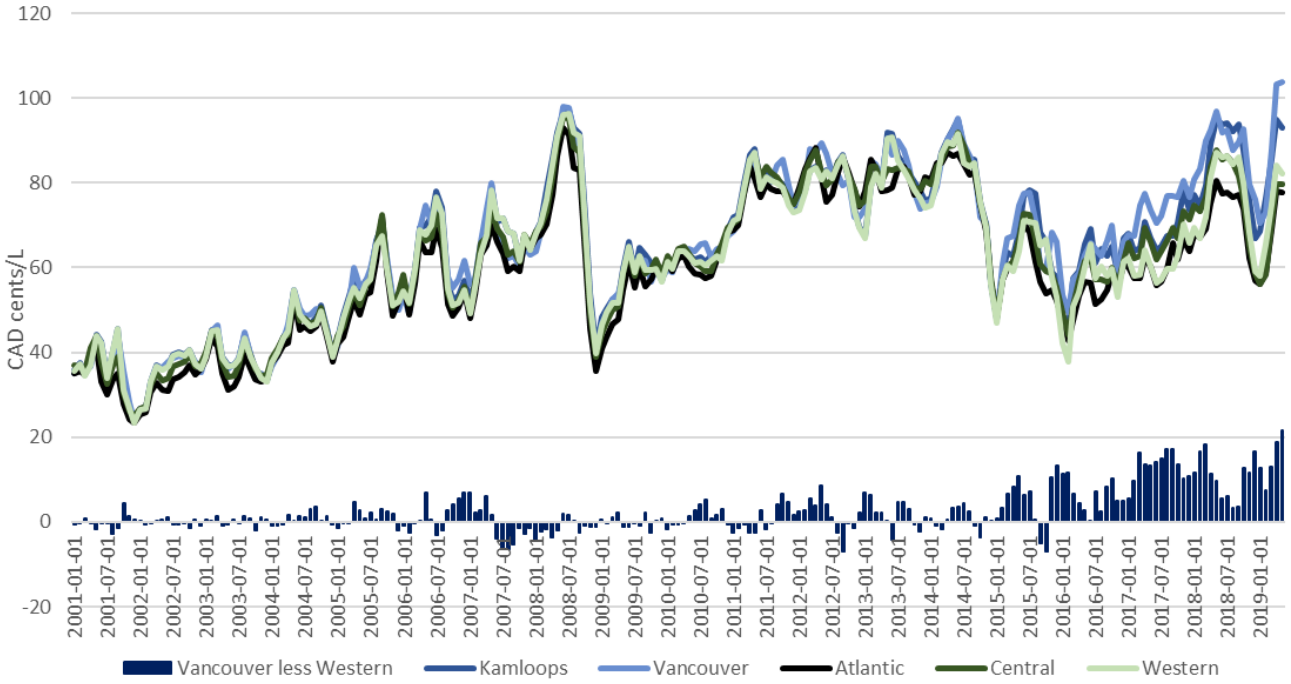
While the wholesale gasoline prices have historically followed one another quite closely across Canada, as shown below in Figure 33, beginning in 2015, a differential emerged between BC (i.e. Vancouver and Kamloops) and the rest of Canada.[247]

This demonstrates that something has changed in the market starting in 2015 resulting in a growing gap between Vancouver and the western region. To understand the divergence, you need to go to the marginal cost provider.

Based on the OPIS data the difference between the PNW and Vancouver has also increased.

[243] Exhibit C4-3, p. 6; Oral Workshop Transcript Volume 1, p. 97.
[244] Exhibit A2-1, p. 20.
[245] Ibid.
[246] Oral Workshop Transcript Volume 1, p. 215.
[247] Exhibit A2-1, pp. 23-24.

Figure 33 - Wholesale Gasoline Price across Canada



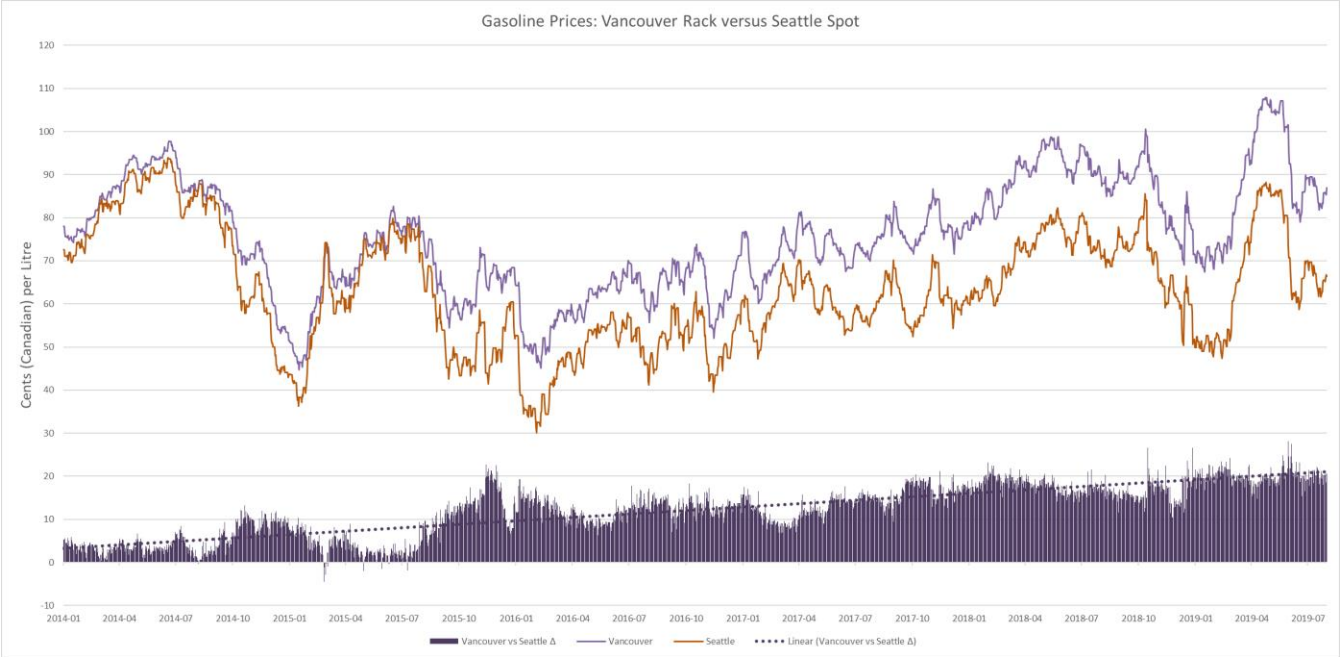
Theory would suggest that in competitive markets, all other things equal, wholesale prices in BC and in adjacent jurisdictions should not diverge more than the cost of transporting the fuel and meeting the fuel specifications because if they were, participants would capitalize on the arbitrage opportunity and prices would move toward each other across markets.[248]

6.7.1.1 Vancouver vs. Seattle Wholesale Price Comparison

In the first half of 2014, wholesale gasoline prices in Vancouver and Washington differed by an average of 3.5 cpl and up to 6.9 cents/litre. By the first half of 2016, this spread had increased to between 10 and 15 cents/litre, though at times it was lower, and by the first half of 2018 it was generally between 15 and 20 cpl, though at times it was either above or below this range. [249]

[248] All figures are in $CAD. Including the graphs and tables, unless otherwise stated.
[249] Exhibit C5-28, pp. 7 to 8.

Figure 34: Gasoline Prices – Vancouver Rack versus Seattle Spot[250,251, 252, 253]



Suncor submits that "the delta between the Vancouver rack Price and the Pacific Northwest Spot Price has also increased, and the trend line indicates that it has increased by approximately 12 cents a litre over the period. This has been due to logistical constraints that have put pressure on transportation costs, terminalling costs and blending costs, the regulatory compliance costs that are unique to BC (BC Low Carbon Fuel Standard), fuel quality premiums, local supply demand factors, and other factors that interveners raised during inquiry testimony".[254]

The Panel reviewed the various components that could explain the difference between the Seattle spot price and Vancouver rack prices in 2018/2019. The graph in Figure 34 shows a 20 cpl differential in 2018/2019, to which Dr. Kahwaty agrees. We note that Suncor's figure of a 12.5 cpl differential is an average over the period 2015 to 2018. We provide our analysis of the 2018/2019 20 cpl differential.

First, the Panel finds that 2 cents/litre can be explained by transportation cost by barge. The Panel notes that the cost of marine transportation was estimated to be 1.7 cents/litre in a 2011 study by the Asia-Pacific Economic Cooperation referenced in the Deetken report.[255] To be conservative and to recognize that prices were likely subject to inflation since 2011, the Panel will assume that the cost to transport fuel by barge has increased to 2 cents/litre.

Added to this are the costs to bring the gasoline to BC and federal government fuel content standards. Although looking into the effect of Provincial enactments is out of scope of this Inquiry, here we estimate the cost of the

[250] Exhibit A2-29, p 4.
[251] Prices are based on average daily prices reported by OPIS: Pacific Northwest, Sub-Octane Unleaded Regular (FOB Seattle), Full Day Average Prompt(¢/gal); Vancouver, Average, Unleaded.
[252] Currency converted based on the U.S. Federal Reserve Economic Data - Canada/U.S. Foreign Exchange Rate, Canadian Dollars to one U.S. Dollar, Daily, Not Seasonally Adjusted, retrieved from https://fred.stlouisfed.org.
[253] 1 U.S. Gallon = 3.7854 Litres.
[254] Exhibit C2-10, p. 2.
[255] Asia-Pacific Economic Cooperation (APEC), Biofuel Transportation and Distribution Infrastructure (2011), p. 38.

LCFS so we can determine any unaccounted-for difference between Vancouver and Seattle prices. Deetken's Phase 2 report provided detailed analysis of the impact of the LCFS on BC gasoline and diesel prices. In its analysis Deetken points out that based on the purchase of compliance units at the maximum compliance unit cost, the maximum cost of this regulation is 2 cents/litre in 2016 raising to 4 cents/litre for gasoline and 3 cents/litre for diesel in 2018. A number of the Oil Companies did raise the cost of meeting regulatory standards for fuel imported from Washington. However, none refuted the cost estimates provided by Deetken regarding gasoline. **Therefore, the Panel finds that the estimates provided by Deetken with respect to the cost of meeting BC fuel regulatory requirements is reasonable and will use the upper value of 4 cents/litre.**

With regard to the cost impact of federal fuel standard regulation, we do not have reliable evidence. However, we note that of the pre-2015 differential of approximately 5 cpl, very little remains unaccounted for after the 1.7 cpl transportation costs and costs for the provincial standard that would be approximately 3 cpl (midway between Deetken's estimate of 2 cpl for 2016 and 4 cpl for 2018). After allowing for inflation and changes in foreign exchange, we estimate the cost of compliance with the federal fuel standard of approximately 0.50 cpl.

The above three factors account for only 7 cpl of the differential in 2018, therefore leaving a large portion of the differential unexplained. **Therefore, considering these two cost factors, we find an unexplained difference in wholesale price between Vancouver and PNW spot, the predominant source of supply of 13 cpl in 2018. This is calculated by subtracting 4.5 cpl for compliance with the LCFS and federal fuel content standards and 2 cpl for transportation from the 20 cpl differential.**

Suncor suggests that in addition to the LCFS requirements and transportation costs the following factors:

- terminalling costs;
- fuel quality premiums;
- local supply demand factors; and
- other factors that interveners raised during inquiry[256]

However, it provides no specific costs to attribute to these factors. In addition, it does not elaborate further on either "other factors" or "local supply demand factors".

We acknowledge there may be additional costs that were not considered in our analysis above and therefore provide an alternate analysis of the cost differential. As can be seen from the graph above, the price disconnect began in early 2015. We therefore consider what changes occurred since then that would affect the acquisition and transport of gasoline from Northwest Washington and its entry into BC. Based on the evidence provided in this Inquiry, we find the following three factors:

1. Changes in costs that existed pre-2015;
2. Cost impacts of changes in federal and provincial fuel standards; and
3. Changes in the exchange rate between the U.S. and Canadian dollar.

We estimate that pre-2015, there is a differential of approximately 5 cpl. We assume this includes transportation costs and anything else required to bring the fuel to Canadian standards. It is not known whether

[256] Suncor Final Argument, p. 5.

there is any unexplained difference included in this amount. However, for the purpose of this analysis we assume it is all explained. We further assume that these costs were inflated by 2 percent per year. The exchange between the U.S. and Canadian dollar rate in early 2015 was approximately 1.20, and in early 2019 was 1.35.

This explains almost 7 cpl of the spread in early 2019. In regard to Suncor's submission, there is nothing in the evidence concerning additional terminalling or other factors, including "supply demand" factors. With regard to LCFS compliance costs, there is no evidence there are any changes since 2014**. Therefore the Panel finds that, using this methodology there is an unexplained difference of approximately 13 cpl.** As a result, using this methodology of examining the changes since 2015 that affect the cost of importing we arrive at essentially almost the same number.

Deetken's analysis of the difference between Vancouver and PNW wholesale prices assumed truck transportation - and showed an unexplained margin of approximately 12 cpl. The Deetken report states: "Since tanker truck transport is more flexible than other forms of transport, it is expected that, if an arbitrage opportunity exists, tanker trucks will be able to transport the product without facing limitations on infrastructure requirements. Additionally, since tanker truck transport is the most expensive form of transportation for refined products, price differentials across two regions are not expected to be greater than the cost of tanker truck transport."[257]

In this regard, the Panel notes that one participant, Parkland, mentioned that it sometimes trucked refined products from the PNW.[258] If a barrel trucked from PNW were to be the marginal barrel then Deetken's analysis, which compared the Vancouver rack to the tanker truck delivered wholesale from Seattle, would be of relevance.[259] **That said, the Panel finds there to be sufficient evidence that the predominant mode of transport from the PNW is barge, and thus, the vast majority of the time, that will be the marginal barrel.**

We are aware of Imperial Oil's concerns that one potential conclusion readers would draw from the Deetken report: that there may be a portion of the differential that is left unexplained, and hence that the market is not properly working. In Imperial Oil's view, if there were a true differential, an arbitrage opportunity would appear and participants in the market would take advantage of it thus putting downward pressure on prices. Imperial Oil explains that the only reason this is not happening, and prices remain high, is because there is a barrier that makes it difficult for the marginal unit to get to market. Imperial Oil noted that Vancouver is no different than other markets in this respect.[260]

The Panel agrees with Imperial Oil that if the wholesale market was perfectly competitive and there were no barriers to entry, the presence of a differential would create an arbitrage opportunity. As market participants took advantage, the differential would eventually disappear as prices in the two markets would move towards one another.

However, the Panel already found that the wholesale gasoline market is highly concentrated and that multiple barriers to entry exist that prevent a potential new wholesaler from capturing any market share from existing suppliers. Put another way, there is no way that any party other than the companies that own the existing

[257] Exhibit A2-1-1, p. 46.
[258] Oral Workshop Transcript Volume 1, p. 216.
[259] Exhibit A2-1-1, p. 59.
[260] Oral Workshop Transcript Volume 1, p. 283-288.

terminals can import gasoline into the wholesale system, unless they sell it to one of the five existing wholesalers. This further illustrates that the gasoline wholesale market is not fully competitive.

Therefore, given the differential between the Vancouver and Seattle wholesale prices that is not entirely explained by differences in cost of producing and delivering the product, the Panel finds that the prices in the Vancouver area are higher than would be expected under more competitive conditions and concludes the higher price differential cannot be explained by economic theory or justified by known factors in the market. Economic theory predicts that the price differential would be arbitraged away over time in a competitive market, but the unexplained differential has grown since 2015. As we discussed in Section 4.3.1, we find this to be an indication that the gasoline wholesale market is not competitive.

We note also that in 2018, 3,000 b/d of gasoline were imported from PADD 5. This represents 5 percent of total exports and 3 percent of total BC demand. Therefore, the remaining 97 percent of gasoline sold at the wholesale level is, if Parkland's economic theory is correct, an additional 13 cents/litre margin over and above the margin it would otherwise be entitled to in a competitive market.

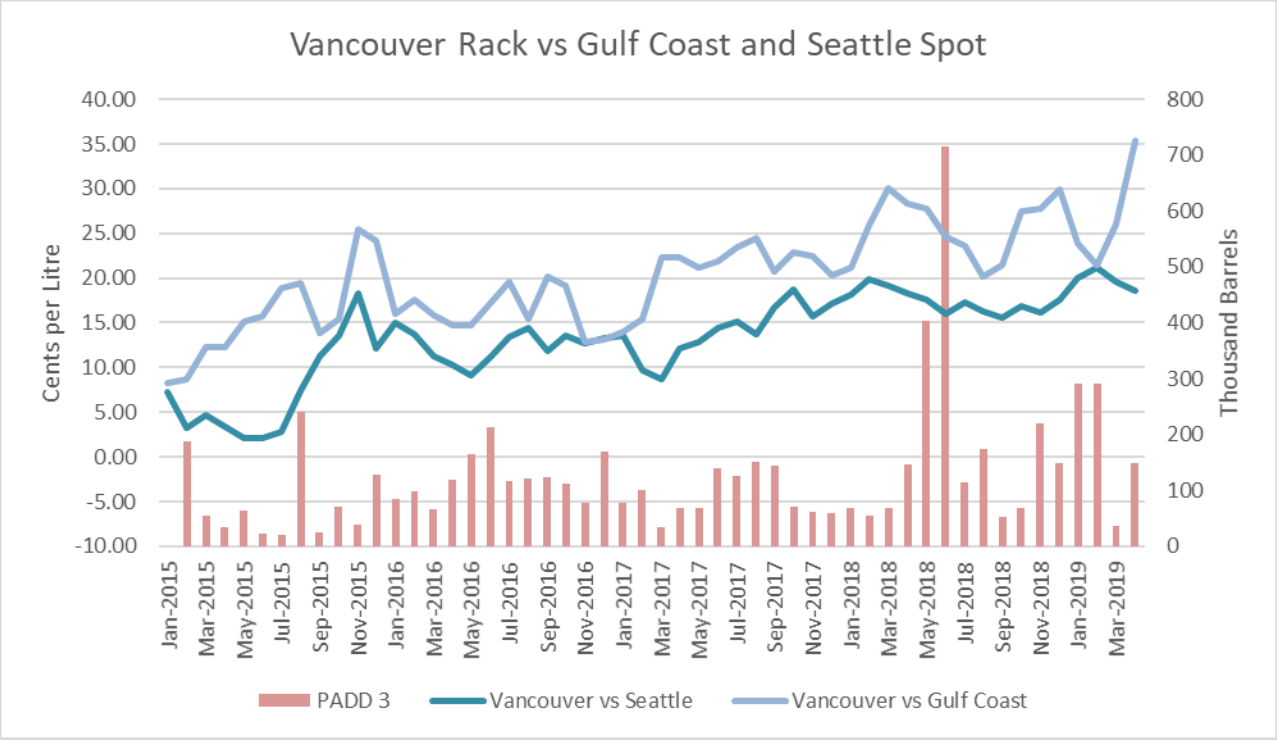
6.7.1.2 PADD 3 vs. PADD 5

In the previous section we compared Vancouver rack price to the PNW spot price because the evidence showed PNW to be the predominant driver of Vancouver rack prices. However, we note that there has been an increase in imports from PADD 3 and a decrease in imports from PADD 5 so that in 2018, there were more imports from PADD 3 than from PADD 5.

We therefore compare PADD 3 prices with PADD 5 and with Vancouver rack prices. As an example, Figure 36 shows the PADD 3 imports recorded by the Ministry of Finance compared against the Vancouver/PNW spread and the Vancouver/Gulf Coast spread.[261, 262, 263]

[261] Prices are based on average daily prices reported by OPIS: Pacific Northwest, Sub-Octane Unleaded Regular (FOB Seattle), Full Day Average Prompt(¢/gal); Gulf Coast, CBOB Unleaded, Full Day Average Prompt(¢/gal); Vancouver, Average, Unleaded.
[262] Currency converted based on the U.S. Federal Reserve Economic Data - Canada/U.S. Foreign Exchange Rate, Canadian Dollars to one U.S. Dollar, Daily, Not Seasonally Adjusted, retrieved from https://fred.stlouisfed.org.
[263] 1 U.S. Gallon = 3.7854 Litres.

Figure 35: Gasoline Price Differential – Seattle Spot vs Gulf Coast and Vancouver Rack vs Gulf Coast Spot



The graph indicates that since January 2015 the price differential between Vancouver and the Gulf Coast has risen to about 35 cents/litre. Further, there are times when it is more cost effective to import from PADD 3 than PADD 5. For example, in May 2018, the Gulf Coast spot price was approximately 27 cents/litre cheaper than Vancouver rack prices and Vancouver rack was approximately 17 cents/litre more expensive than Seattle.

Therefore, based on the shipping costs of 10 cpl from the Gulf Coast[264] and 2.5 cpl from Seattle, imports from the Gulf Coast are actually cheaper than from the PNW:

- There is 14.5 cpl unexplained from the Seattle prices (17 cpl Vancouver to Seattle spread minus 2.5 cpl transport = 14.5 cpl)
- There is 17 cents/litre unexplained compared with the Gulf Coast (27 cpl Vancouver to Gulf Coast minus 10 cpl transport = 17 cpl)

The Panel concludes that PADD 3 imports may at times be the "marginal barrel," however the spread between the Gulf Coast spot price and Vancouver rack has risen such that the Gulf Cost spot price plus transport is generally cheaper than Vancouver rack. Furthermore, there are also times in which PADD 3 imports are more cost-effective source of supply compared with imports from the PADD 5 region. This arbitrage opportunity exists when the price plus the cost of transportation of gasoline from the Gulf Coast is less than that from PADD 5. The data indicates that the largest reported deliveries often take place when this arbitrage situation occurs.

6.7.1.3 Kamloops vs. Edmonton rack prices

In Kamloops, tanker truck transportation costs also appear to explain part of the differential in wholesale prices. As shown in the figure below, they explain about 4 cents/litre of the differential between Kamloops and Seattle

[264] APEC, Biofuel Transportation and Distribution Infrastructure, 2011, p. 38.

and about 5 cents/litre of the differential with Edmonton in 2019 (up to June 2019). However, beyond transport costs, there was still a 7 cents/litre differential between Kamloops and Seattle in 2018 and a 7 cents/litre differential between Kamloops and Edmonton in 2019 (includes up to June 2019).

Figure 36 - Kamloops Wholesale and delivered gasoline from Edmonton and Seattle

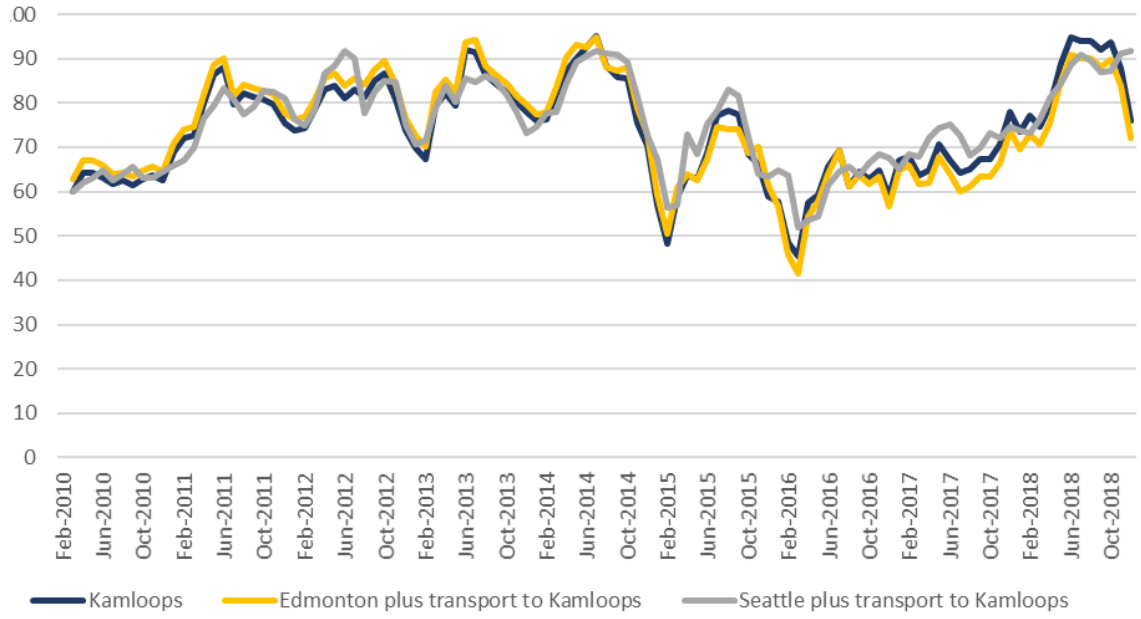
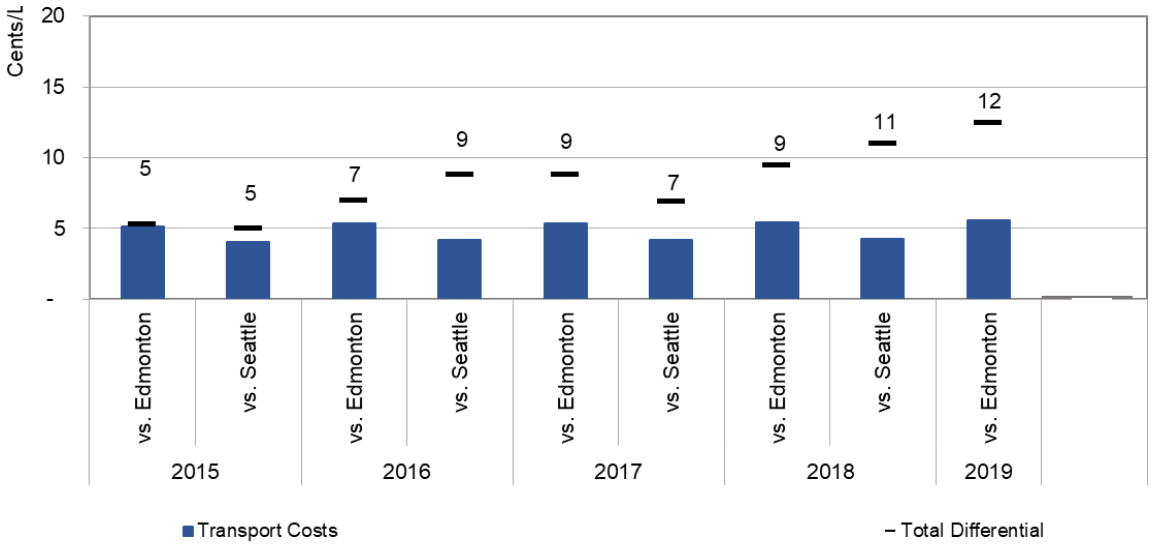


Figure 37 - Kamloops wholesale price net of tanker truck transport costs



Panel findings

The Panel finds that there is an unexplained differential between Kamloops and Edmonton assuming the method of transportation is trucking, which is the most expensive transportation mode. Using Deetken's analysis, this differential ranges from about 2 cents/litre in 2016 to approximately 6 cents/litre in 2019.

The finding is based on the assumption that a majority of Edmonton imports were trucked in. Although the evidence is not conclusive, we expect that while this may be the case in 2018 and 2019, in 2016 and 2017 the

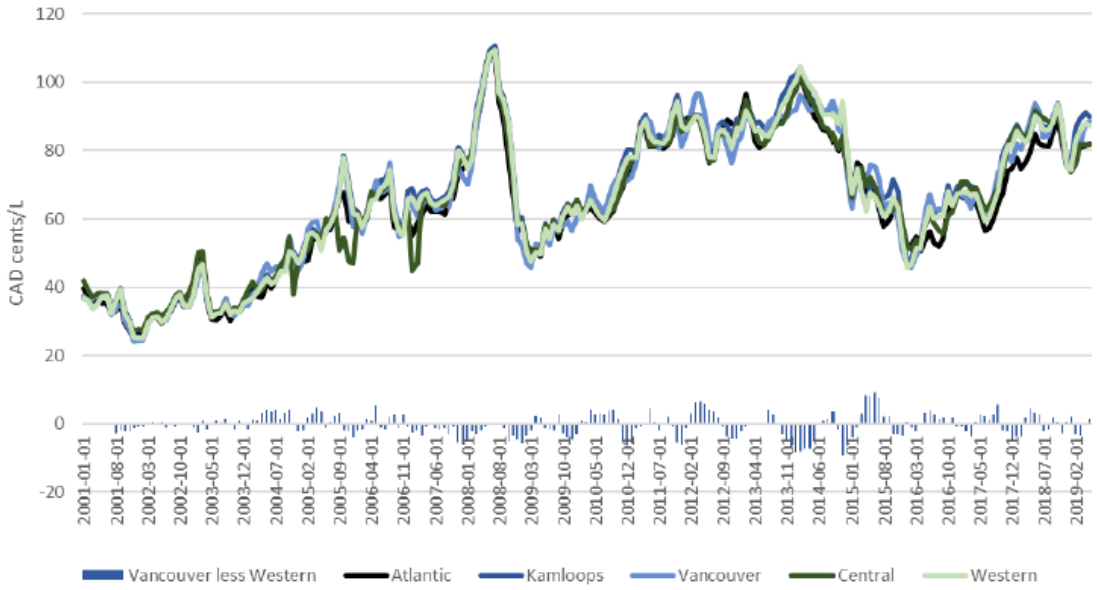
likelihood is that the primary mode of transport was pipeline and rail. If so, this would have the effect of increasing the unexplained differential in 2016 and 2017, relative to Deetken's estimate.

6.7.2 Diesel wholesale diesel price differentials

As the section below shows, the behaviour of diesel wholesale prices differs from the behaviour of gasoline wholesale prices over the 2015-2019 period. Deetken explored how gasoline and diesel may be subject to different supply and demand dynamics to explain those differences.

However, in contrast to wholesale gasoline prices, wholesale diesel prices have followed one another quite closely across Canada since 2001, and no systematic differential has appeared between Vancouver and the Western region, as shown below.[265] Accordingly, we do not consider further analysis of the diesel market to be necessary in order to answer the questions posed by the OIC.

Figure 38 - Wholesale Diesel Prices across Canada[266]



6.7.3 Refining margin and net profit

We have not considered the issue of refinery profits. In its submission, Parkland stressed that, as defined, the refining margin does not consider all revenue streams, yield structure, or operating costs and thus is a poor indicator of absolute profitability. Since profitability is a function of total revenues generated by the sale of all products of the refinery and the costs related to the operation of the refinery, any shift in refinery yield or cost structure affecting the profitability of the operation positively or negatively will not be reflected in the refining margin.[267]

[265] Exhibit A2-1, p. 24.
[266] Ibid., p. 25.

However, Parkland also suggested that they are an infra-marginal supplier, therefore implying that the wholesale price is set at a price that is above its cost to produce.[268]

Husky Energy noted that the largest refining costs are labour and energy and these costs have increased in the period since 2015. The refining margin in Prince George for gasoline and diesel typically follows the market in Edmonton as that is the main supply location (other than Husky Energy's operation) for central and northern BC. The increasing BC LCFS requirements and more stringent renewable fuel mandate have increased the cost of supplying fuel in BC relative to the Edmonton market. Increasing costs for carbon taxes have also negatively impacted the refining margins in Prince George relative to other Canadian markets.[269]

Imperial Oil explains that while the major refining cost drivers are crude oil, natural gas, maintenance, other operating costs, depreciation and taxes there are other factors impacting Imperial Oil's refining margin. They are: U.S. exchange rate, regulatory compliance, transportation and storage for refined products, and overhead costs for refined products. Imperial Oil states that its refining margins are not factored into the determination of its wholesale prices.[270]

Part of the wholesale margin includes the refinery profit. Dr. Kahwaty submitted his analysis of the profit of all refineries[271] and it is not, compared to other like industries, very high. His research indicated a net profit, on average, of 4.62 percent.[272]

Given the time constraints in this Inquiry it has not been possible to do a complete analysis. Some evidence on refinery profits from three refiners was presented confidentially. However, this information is not required to answer the OIC questions and further analysis is required to fully test this evidence.

6.8 Wholesale Distribution System Access

6.8.1 Crude Oil Contracts

While crude oil is the primary input of refined petroleum products, the evidence in this Inquiry indicates that it is not the primary determinant of daily rack prices. Imperial Oil confirmed that the cost of its crude input does not factor into its rack price.[273] Similarly, Husky Energy does not price its refined products based on the cost of crude oil supply or value of refined products inventory but rather based on racks set by others.[274] Suncor also does not consider inventory valuation when setting wholesale prices.[275]

[268] Parkland Final Argument, p. 8.

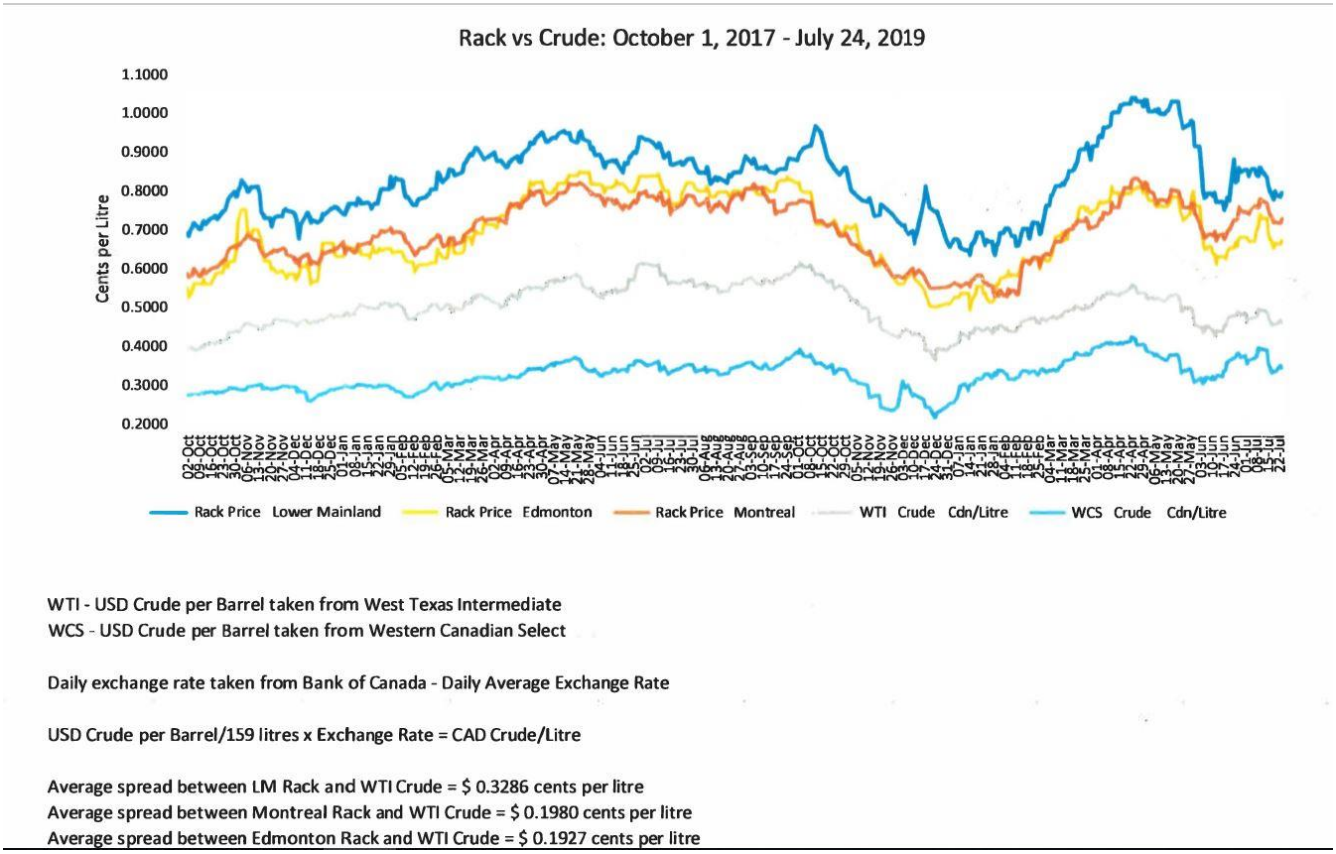
[271] Exhibit C5-2, p. 8, 13.
[272] Exhibit C7-2, p. 2.
[272] Exhibit C8-2, p. 3.
[272] Exhibit C5-21.
[273] Exhibit C8-2, p. 2; Oral Workshop Transcript Volume 1, p. 286.
[274] Exhibit C7-2, p. 2, Oral Workshop Transcript Volume 2, p. 537.
[275] Exhibit C2-2, p. 4.

It is worth noting that 7-Eleven has someone who keeps track of rack prices[276] but noted that no one in their organization analyzes crude prices on a daily basis.[277] This observation would seem counterintuitive if crude prices were in fact the basis on which rack prices were set.

In contrast Super Save stated: "The rack price, and it was said here in the meetings, we don't look at crude oil to set our rack. Well, that's ironic if, you know, 80 percent, 85 percent of your input costs are crude, and you don't look at crude? Something doesn't make sense here."[278]

As a case in point, Super Save pointed out that the rack was very high prior to this Inquiry being called and it dropped 25 percent within days of the Inquiry being called, even though crude oil prices did not move by 25 percent. "The oil didn't disappear or magically appear".[279] This disconnect between the Vancouver rack price and the crude indices is shown in the figure below created by Super Save.

Figure 39: Rack vs Crude



In its 1996 submission to the BCUC Inquiry into Gasoline Pricing, Super Save noted its "crude related contract" that covered the period from 1990 to 1996 and explained: "… the wholesale price chargeable to Super Save Gas was determined by adding to the cost of crude oil a fee for the processing, pipelining and terminalling of that

[276] Oral Workshop Transcript Volume 4, p. 754.
[277] Ibid., p. 751.
[278] Ibid., p. 746.
[279] Ibid., p. 735.

crude oil which was refined on behalf of Super Save Gas by the major oil company."[280] This topic was canvassed by the Panel during the oral workshops.

Parkland confirmed that it does not have any product supply contract that is tied to the price of crude. It explained that this may have been done in the '90s when refiners were looking to ensure they had full utilization of their assets and their facilities but this type of contract is not common now and has not been for some time.[281]

Suncor believes that a crude benchmark would add volatility, decrease the level of transparency and would not be an accurate representation of the market.[282]

In contrast, Super Save argues that crude related contract provided "complete transparency from the feedstock of crude oil to the end pump price".[283] Super Save notes that these types of contracts were happening in the 1990's through to the late 1990's and even into the 2000's for some companies. Super Save had negotiated with Imperial Oil and Petro-Canada a processing fee at the refinery level and a pipeline fee and "everything was transparent" since these fees were added on top of the crude price, which is a posted price. Super Save submits that this type of contract is needed today as it would allow transparency into the various components of the price paid for the fuel, contrary to rack prices which don't follow crude oil prices.[284]

> I believe that the refiners wouldn't wish to have a crude contract. And I think the reason for that is the posted rack is un- -- there's no vision to it. There's no -- crude oil is a feedstock and the refinery refines crude oil. But nobody wants to talk about crude oil as being the feedstock and the basis of the rack price. For some reason it's a mystery and it shouldn't be. Crude oil is what you're refining. Then it should follow, and we've charted and it doesn't. And if you take Western Canadian Select, that spread gets as high as 60 and 70 cents. There's no reason for that. And I believe that crude oil transparency is what we want.[285]

Panel discussion

The issue is whether it was possible to reinstitute the earlier practice of offering a crude related contract. The argument being that this was common in the past and if adopted could serve to open the market to marketers and retailers and remove a barrier to entry thereby creating a greater level of competition at the wholesale level. This was explored in the Dr. Jaccard 1996 Inquiry where his Final Report recommended government policies that would involve "mechanisms to help independent retailers access alternative wholesale gasoline suppliers by having owners of various terminal (rail, water and pipeline) and storage facilities post prices for the use of such facilities by independents."[286] The comments from the refiners in this inquiry is that this would not increase transparency and would be costly to implement. It had also been stated that while these contracts were available in the past, that was when there was excess refinery capacity. While the idea was not rejected outright, there appeared to be little interest on the part of respondents to pursue the matter.

[280] Ibid., p. 735.
[281] Oral Workshop Transcript Volume 1, pp. 657-658.
[282] Ibid., p. 704.
[283] Ibid., p. 730.
[284] Ibid., p. 730.
[285] Ibid., pp. 731-732.

Given the reported high capacity utilization in both BC refineries, and there is no evidence to suggest there is excess capacity at either, the Panel finds that a return to the type of "crude related contract" described would be impractical, unworkable and difficult to impose. Given the size of investment in a refinery, consideration of such a proposal is most appropriately left to the discretion of the Refinery owner or operator.

6.8.2 Primary Terminals

According to the affidavit of Dr. Rensing, there is inadequate infrastructure in BC to transport, receive, store and then distribute large quantities of refined fuels acquired from a market other than Alberta.[287] Parkland explains that each terminal typically operates against operating constraints which include marine and wharf limitations, the inability to change tank service from gasoline to diesel and the overall volume capacity for different diesel and gasoline grade differentials.[288] Further terminal capacity could reduce the impact of existing constraints.

Most of the Oil Companies have reported there has been no growth in storage capacity since 2015 and some of their storage terminals have been operating at or close to full capacity.[289] Parkland states that their terminals are operating at, or close to, economic capacity. However, Shell submits that while its Shellburn terminal generally operates at full capacity, the requirements of Shell's local retail and commercial fuels network does not require its Chemainus and Burmount to operate at full capacity.[290]

According to the Kent Group, marketers[291] generally utilize shared terminals in order to reduce overall operating costs where the terminal operator receives a fee from marketers lifting product from their terminal. In order to do this, it is assumed that there are agreements between the Primary Terminal owners to handle one another's fuel types and each has the facility to create each marketer's particular branded blend of fuel.

In addition to Primary Terminals, there are 54 bulk terminals located throughout the province of BC. In contrast to the larger Primary Terminals, bulk terminals handle smaller volumes and generally receive product via tanker trucks from a Primary Terminal rather than a refinery. Structurally, they are smaller version of Primary Terminals and generally have one loading rack and fewer tanks with no ethanol blending capability. Bulk terminals typically serve commercial wholesale customers in more remote and less populated areas where frequent deliveries from the Primary Terminal are not economical.[292] Unlike Primary Terminals, bulk terminals are less likely to be shared and they generally serve as local sales offices as well as distribution facilities. According to the Kent Group, bulk plant operators are usually contracted on the basis of a throughput commission (when owned and operated by the brand marketer), or as independent buy/sell owner/operators under a branded supply contract.[293]

Dr. Kahwaty explained that refiners such as Shell, Husky Energy and Parkland supply independent dealer stations. He also noted that they also supply independent marketers like McDougall Energy and Global Fuels who purchase wholesale fuel at racks at terminals, and transport and distribute that fuel to independent

[287] Exhibit E-47, Affidavit of Dr. Michael J. Rensing, p. 4.
[288] Exhibit C5-2, Appendix A, p. 16.
[289] Exhibit C5-2, Appendix A, p. 16; Exhibit C10-2, PDF p. 5.
[290] Exhibit C10-2, PDF p. 5.
[291] Exhibit A2-1, p. 17: describes 3 types of marketers: 1) integrated refiner-marketer, 2) integrated marketer-retailer, and 3) independent marketer.
[292] Exhibit E-42, p. 6.
[293] https://www.kentgroupltd.com/wp-content/uploads/2017/12/Report-OverviewofCanadasLogisticalInfrastructure.pdf.

dealers. Thus, if an independent dealer station wishes to open up, it can contract with one of the refiners or contract with one of the independent marketers like McDougall for supply.[294]

When asked if an independent seller could purchase fuel somewhere else and bring it to Parkland's terminal for blending Parkland confirmed that while independents have access to its terminals, they are required to purchase Parkland's products. Parkland also confirmed that it does not allow an independent to purchase fuel from another party, to bring it into its terminals for blending and to resell it. Parkland stated:

> And the reason we don't do that is there are logistical issues. One is you have to be able to offload what comes into the terminal via tanker truck. That is not something every terminal is equipped to do. And to keep segregated the gasoline, the diesel and all the various components. So really it's just –again, it's a physical, very physical limitation to being able to do that.[295]

In response to a similar question and how it might affect the retail market in BC, Suncor stated that doing so would lead to inefficiencies and increased costs due to, smaller thanks, less optimal shipments, etc.[296] Suncor confirmed that all fuel sold under the Petro-Canada brand must be supplied by Suncor so that the company can ensure the fuel meets its quality standards and contains the proprietary additives that it advertises. This supply is either done through a Suncor terminal or one that Suncor has an agreement with.[297]

Contrasting these responses on the use of existing terminal by independents with their own sources of refined product is that of a retailer, Super Save. Super Save explained that if the option to access existing terminals in BC by independents existed, it would absolutely change the retail market in BC because "anytime you can remove a barrier on anything, things flow better".[298] It would result in easy access for everybody, including Super Save. The company explained that while it presently does not import gasoline from the U.S., one of the challenges is they don't have access to tanks to mix it.[299]

Panel findings

The Panel finds that a key choke point and barrier to downstream market entry is a lack of access to primary terminals by any entity other than one of the Oil Companies. In spite of this issue being broadly discussed there is no evidence that any of the Primary Terminal owners (with blending capabilities) has an interest in providing terminal space to other entities so they can blend and store gasoline. The Oil Companies also seem to have reciprocal agreements with one another. The Panel notes that concerns were raised as to the logistical issues and efficiencies of such an arrangement. However, this could be overcome through designated terminals designed to carry refined product that has not been blended to particular brands specifications. The viability of common access terminals is premised on whether there is enough demand from the non-refining marketers for the terminal capacity. We have not heard from potential users other than Super Save.

As described earlier in this report, the refining and distribution segments of the gasoline market in BC are concentrated in the hands of five major oil companies.[300] Industry submissions have emphasized what they believe to be the existence of strong competition in the wholesale sector. However, one of the characteristics of

[294] Oral Workshop Transcript Volume 1, p. 131.
[295] Oral Workshop Transcript Volume 4, pp. 659-662.
[296] Ibid., p. 704.
[297] Ibid., pp. 705-706.
[298] Ibid., pp. 732-733.
[299] Ibid., p. 740.
[300] Parkland, Husky, Suncor, Imperial and Shell.

a truly competitive market is the ease with which new entrants can enter the market. If this were the case, it would mean that independents have easy access to transportation, terminal and storage facilities. The evidence gathered in this Inquiry points to the contrary as these facilities are concentrated in the hands of the same five players that seem to have strong market control.

Another issue arising with respect to terminal operation is the rigor and cost of meeting the regulatory requirements for blending in refined fuels sold within BC. This was raised by virtually all of the Oil Companies who emphasized the impact of this on both gasoline and diesel pricing. We note there may be an opportunity to soften the impact of such requirements through consideration of ways to more closely harmonize federal fuel regulations with those in jurisdictions from where we import refined gas supplies.

The evidence indicates that terminals are likely running at close to capacity under the present situation with reduced delivery of road use gasoline on the TMPL. However, any further reduction, by inference, would likely put a greater strain on their resources. **Accordingly, the Panel finds that an additional investment in distribution infrastructure, which includes the Primary Terminals referred to above, would help alleviate any additional constraints in the supply chain, should they occur, and also provide more opportunity for other wholesalers to enter the market.**

6.9 Retail Margins

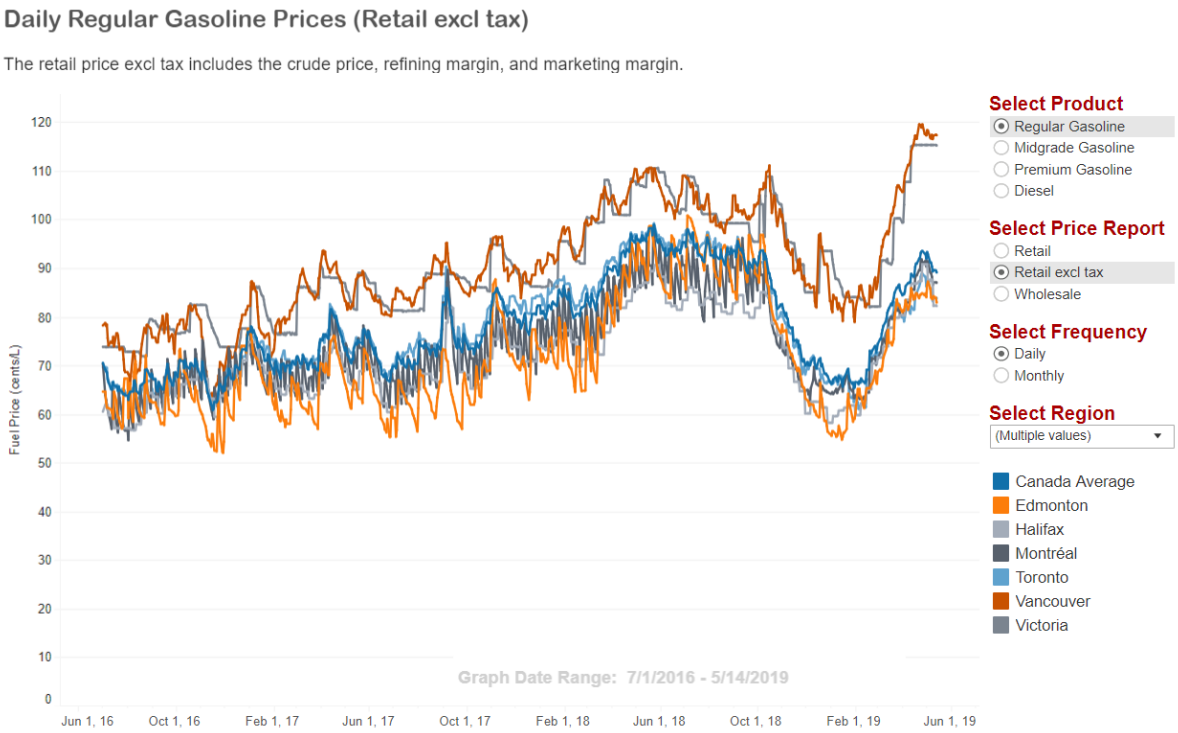
6.9.1 Retail Prices

Retail prices for regular gasoline across Canada have generally been highest in Vancouver and lowest in Edmonton since 2015. According to the NEB's interactive map[301], the monthly regular gasoline retail price in Canada in April 2019, excluding taxes, was 114.25 cents/litre in Vancouver and 83.5 cents/litre in Edmonton.

Figure 40 shows that the daily regular retail gasoline prices in Vancouver and Victoria have consistently been above the Canadian average, and the differentials appear to have widened since late 2018.[302]

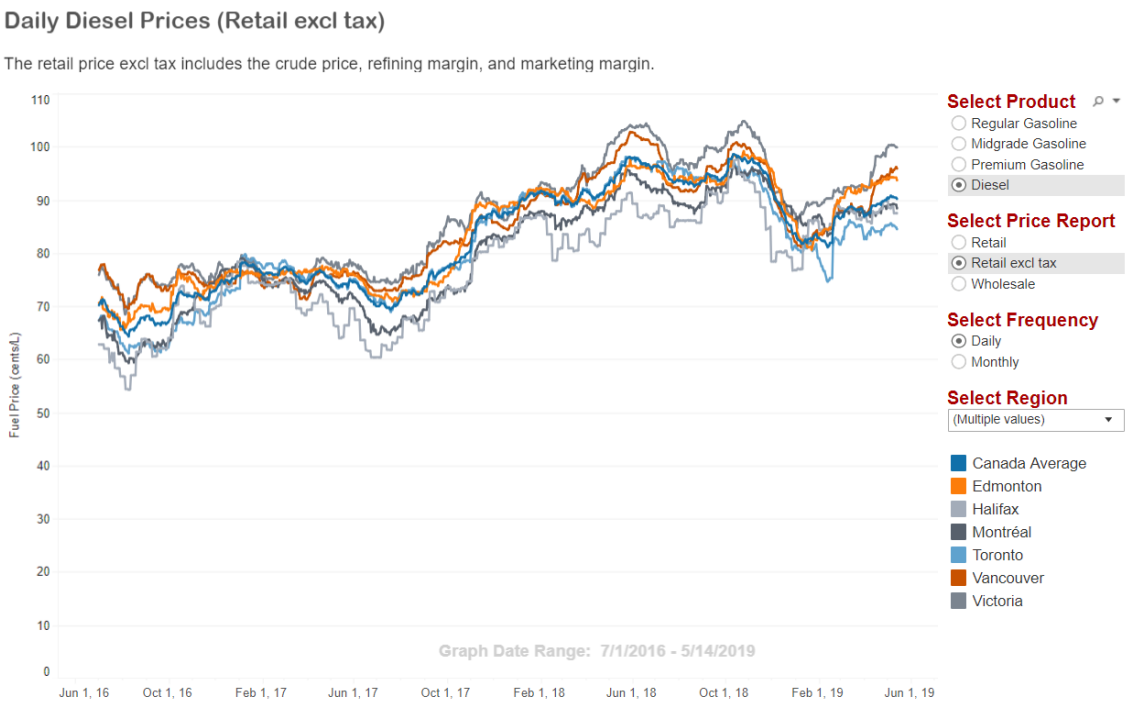
[301] Exhibit C5-21, p. 2.
[301] Exhibit C4-3, PDF p. 26; https://www.neb-one.gc.ca/nrg/sttstc/crdlndptrlmprdct/rprt/2019gslnrprt/index-eng.html.
[302] Exhibit C4-3, PDF p. 7; http://www.neb-one.gc.ca/nrg/ntgrtd/mrkt/snpsht/2019/05-03gslnprcng-eng.html.

Figure 40 - 2016 -2019 Key Canadian Market Price Comparison - Gasoline



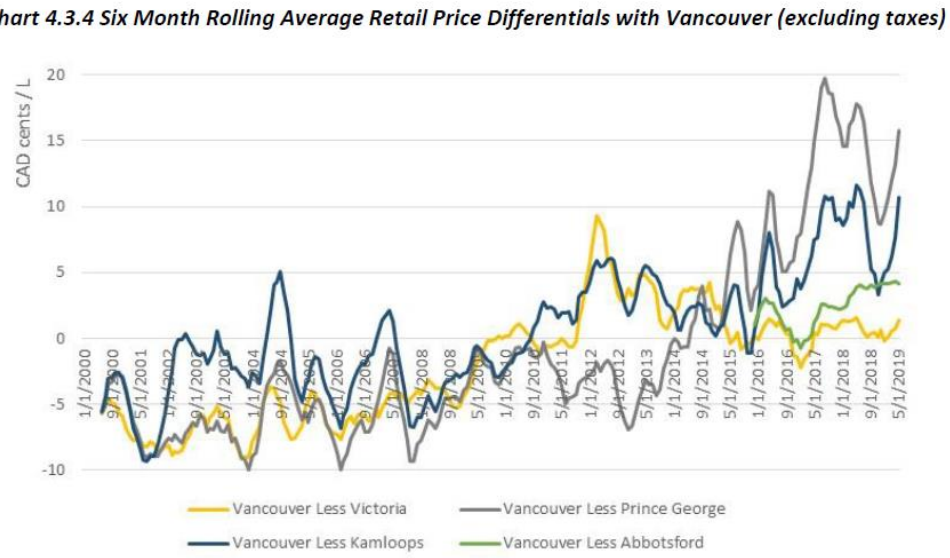
For diesel depicted in Figure 41, Vancouver and Victoria daily retail prices remain higher than the Canada average. However, the differential with respect to other markets appears to be smaller and more consistent over time.

Figure 41 - 2016 -2019 Key Canadian Market Price Comparison - Diesel



With respect to retail gasoline prices (excluding taxes) across BC, Deetken found that prices generally move together when looked at more broadly over time.[303] When the data is converted into six-month rolling average as outlined in Figure 42, it appears that the price growth differentials between Vancouver, Victoria and Abbotsford is small. However, the differential between Kamloops and Prince George relative to Vancouver and Victoria was significant, especially in the last few years.[304]

Figure 42 - Key BC Markets Comparison



It thus appears that Vancouver has the distinction of having one of the highest retail gasoline, ex tax prices, in the country. Perhaps more importantly, since 2015 there appears to be a divergence in prices between the greater Vancouver/Victoria gasoline markets and other interior or northern BC markets.

Market Concentration

The methods applied to test market concentration in this Inquiry include the Four Firm Concentration Ratio (CR_4) and the Herfindahl-Hirschman Index (HHI). Deetken applied each of these market concentration measures to all marketers in BC, Alberta, Saskatchewan, and Manitoba. They first applied the test to both marketer-controlled as well as uncontrolled retail stations and then applied more specifically to the concentration of marketer-controlled retailed stations. Deetken's analysis was based on provincial level data and number of retailers rather than total volume of sales due to data limitations.

Deetken's CR_4 tests found that there are low concentration levels for all four provinces, including BC. The HHI tests suggests low concentration levels for all of BC's marketers as well as marketer-controlled retail stations.[305] Dr. Kahwaty also suggests that the retail market is not concentrated in BC because there are 1,368 gasoline and diesel retailers in 2018, offering 29 brands marketed by 24 companies. The largest marketer controls 12.6 percent of the market and there are no significant barriers to entry.[306] However, Allan and Eliesen suggest that barriers to entry into the BC retail market have existed since the late 1990's, citing the closure of the Shell and

[303] Exhibit A2-1, p. 27.
[304] Ibid., p. 28.
[305] Exhibit A2-1-1, pp. 18-22.
[306] Exhibit C5-9, Expert Report of Dr. Henry J. Kahwaty, p. 6.

Suncor operated refineries in 1993 and Imperial Oil in 1995. Allan and Eliesen appear to suggest that the lack of adequate refining infrastructure within BC itself is a barrier for new entrants.[307]

Dr. Kahwaty extends his analysis to suggest that the retail market is a well-functioning competitive market. He notes that the standard definition of market power, used by Competition Bureau and others, is the ability to profitably maintain prices above the competitive level for a significant period of time. In well-functioning markets, participants lack substantial market power. If there are a large number of competitors and lack of barriers to entry, the market is competitive and is not one where we will see market power. Even if there are only a few competitors but no barriers to entry, then the market is well functioning as either a price increase will attract new entrants and the price will eventually return to the equilibrium or the fact that there is no barrier will act as a deterrent to increase prices to start with.[308] By way of example, Dr. Kahwaty submits that the recent significant market entry by BG Fuels/Global Fuels in BC is an indication that the market lacks significant barriers to entry or expansion.[309]

However, as compared to other Canadian jurisdictions, there is a higher proportion of retail outlets controlled by refiner-marketers in BC than others. As the Kent Group reports in its 2018 census (for BC and the Yukon), the number of gasoline stations price-controlled by an integrated refiner-marketer is 32 percent, far above the Canada average of 23 percent.[310] As Table 9 in Section 5.6 indicates, 33.4 percent of the retail stations are refiner-marketer price controlled in BC.

Advanced Biofuels makes the assertion that the data shows that the ability of retailers to control prices is extremely limited; the reality of price control in the Vancouver (and the broader BC market) is that refiners exercise the vast majority of control over prices that motorists see at the pump. Further, incidents in other markets show the lack of market power that non-refiner retailers have to control prices when they compete in a market with refiner-owned stations.[311]

With respect to the retailers' choice of choosing a supplier, Parkland reiterates that they have to be competitive to be in business. The length of contracts depends on each individual contract and the nature of the agreement and marketers have the flexibility outside of those contracts when they expire.[312] This is consistent with 7-Eleven's submission in that they would evaluate different options to rebrand or not at the term of their contracts.[313]

Agreements between Suncor and the Petro-Canada branded retail marketers have longer terms, typically five to ten years, with both parties committed for the agreement. Suncor explains that these agreements are made due to the sizeable investment a retailer marketer makes when establishing a new Petro-Canada service station and for Suncor to differentiate the Petro-Canada brand. As the retailer selling fuel under the Petro-Canada brand, all fuel must be supplied by Suncor to ensure product quality. [314] For unbranded retailers, Suncor notes that those agreements are usually shorter and allow more flexibility.[315]

[307] Exhibit C1-2, pp. 19-20.
[308] Oral Workshop Transcript Volume 1, pp. 117-118.
[309] Exhibit C5-2, Expert Report of Dr. Henry J. Kahwaty, p. 75.
[310] Exhibit A2-3, PDF p. 24.
[311] Exhibit C6-2, p. 10.
[312] Oral Workshop Transcript Volume 4, pp. 662-663.
[313] Ibid., p. 752.
[314] Ibid., p. 705.
[315] Ibid., p. 706.

Panel Findings

As outlined in Table 9, there are multiple players in BC that operate within the retail end of the business. This, it can be argued, serves to dilute the concentration of market power that can be exerted by the larger refiner marketers that operate within the market. However, the point can be also be made that a significant number of these independent players are tied by brand to the 5 major refiner-marketers and along with dealer-controlled stations, are reliant on these refiner-marketers for supply. Since the rack price which for the most part is controlled by the five Oil Companies is a major part of the retail price at the pump and the brand agreements tie a large number of retailers to these major refiner-marketers, the closeness of these relationships cannot be ignored. **Accordingly, in spite of concentration levels within the retail market being low, the Panel finds the relationship of most dealers to the refiner-marketer may still have an impact on there being a fully competitive market**. Moreover, refiner-marketers have direct control over pricing in 33.6 percent of BC's retail stations which is significantly higher than the average in Canada. **Therefore, the Panel finds that while the impact of this cannot be quantified, this relationship increases the opportunity for effective market control.**

Competition and Volatility in the Retail market

Gas stations typically post their prices on large street-side signs. According to the Competition Bureau[316], consumers are very sensitive to price and as a consequence, gas stations often strive to meet or beat their competitors' posted rates so as not lose customers. Competing gas stations often charge similar or identical prices but the Competition Bureau is clear that this is illegal only if competing gas stations reach an agreement to do so. The Competition Bureau generally accepts the fact that prices for gasoline change quickly as an indication that competition is working.

Prices go up or down at the pumps as retailers compete, and each tries to match the price of others. However, in addition to competition among marketplace participants jockeying for position on prices at the pump they must balance this with fluctuating wholesale prices which can change on a daily basis. [317]

When asked about the level of competition at the pumps, all of the gas retailers who participated in this inquiry were adamant that a highly competitive retail market existed in BC regardless of the specific market.

More specifically, Parkland points out that gasoline and diesel prices are readily observable by consumers and referring to the Kent Group observes it is the one business where one can comparison shop at 60 Km/hr. In addition, online tools like "Gas Buddy" are there to assist the public in better understanding real-time pricing and find the lowest market price. As such, retail competitors see price competitiveness as the "ticket to the game" which is to drive customer traffic to their locations with the intent of selling other consumable high margin products. Failure to be competitive even to the tenth of a cent risks customers not visiting the location and potentially lost the c-store sales. As commented by one Parkland executive, "They're simply not in the game". Consequently, retailers must set prices with a keen eye on nearby competitors with the result that it is not uncommon for price changes at Parkland locations to occur "multiple times per day".[318]

[316] The Competition Bureau, an independent law enforcement agency, is a federal government institution that ensures that Canadian businesses and consumers prosper in a competitive and innovative marketplace. The Competition Bureau is responsible for the administration and enforcement of the *Competition Act*; https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/home.
[317] Exhibit A-14; https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02926.html.
[318] Parkland Final Argument, pp. 52-53.

These views are also held by 7-Eleven, who also assert that consumers can be attracted to a particular service station based on small differences in the price offered. A retailer wanting to attract fuel sales needs to monitor his/her market and set prices according to local conditions. This may result in retail prices changing many times a day. 7-Eleven states that the service station business is not a "cost-plus" business where mark-up is consistent and it is not uncommon to sell fuel at a price below the wholesale purchase price.[319]

Volatility in the Retail Market

While high retail prices are a concern and the focus of this Inquiry, the issue of volatility was raised by many of those British Columbians who filed public letters of comment. Many consumers expressed frustration with regards to the level of price volatility in the market and the frequency and magnitude of price fluctuations within the day.

Concerns related to the frequency of gas price changes over the course of the week or within a day was a common theme in the letters of comment received by the Commission. Respondents expressed frustration with the current system employed by marketers. This, combined with a lack of understanding as to why prices were so high relative to crude prices or neighbouring jurisdictions, has led to general dissatisfaction and distrust with respect to gasoline pricing.[320] An example of such frustration is the following:

> … people such as myself are going through their work week, checking prices from morning until evening, waiting for the price to fall (which it always does but no one knows the hour), and hoping that when it does we're on the right side of the road and/or that we have the time to drive the extra few blocks to fill up. For example, we'll rush to the gas station these days when it's at $1.54 because we all know it'll be $1.61 the next morning. If we miss it, it's impossible to know at what hour it will go down again. It seems if we don't 'jump' when the gas stations dictate, we will miss the 'price of the hour' and pay dearly a few hours later. Here in the GVA we are treated differently than any other area in this country and no one ever seems to do anything about it…[321]

Suncor explains that in the retail environment they have to match their competition as quickly as possible. Suncor makes multiple price changes a day because prices move frequently.[322] Similarly, retailers such as Parkland, Husky Energy, 7-Eleven and Super Save have dedicated resources and communication tools to adjust prices quickly on a real time basis to remain competitive.[323] Super Save indicates that they will move their prices six to eight times a day.[324] This practice could cause significant logistical problems for those where the refiner marketer or marketer controls prices. When asked about this, 7-Eleven responded that the pricing decisions are made out of a central location in Irving, Texas and competitive situations that arise through the day are handled over the phone. 7-Eleven explains:

> So our information comes on two fronts in terms of how we gather information from the street. The first is through required pricing observations of competitors by our store managers. That's on a daily basis, on a certain frequency. In addition, we subscribe to an OPIS feed that provided verified credit card information of other retailers in the area.[325]

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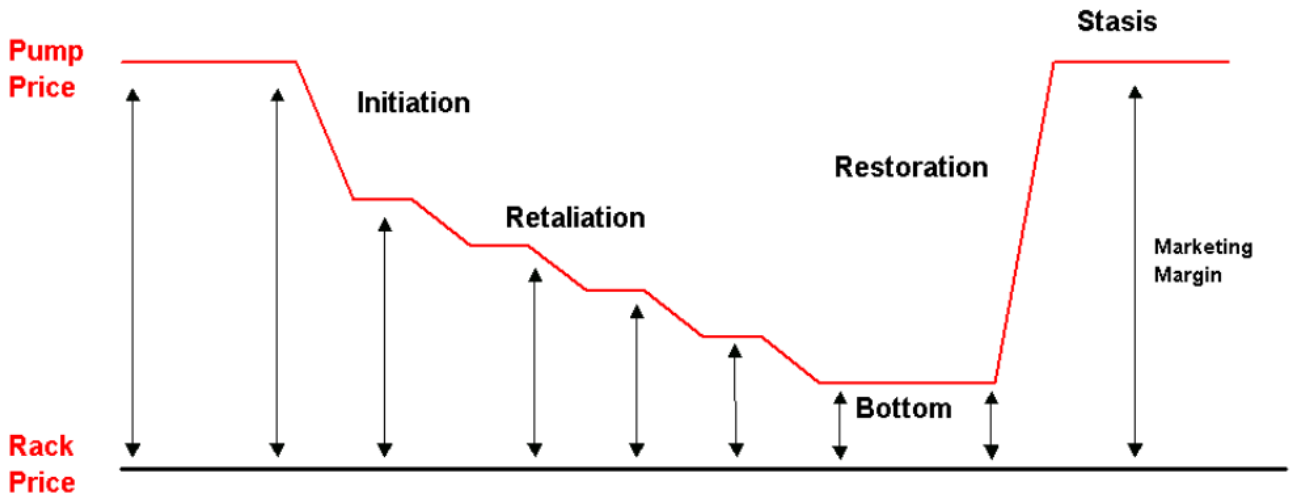
[319] 7-Eleven Canada, Inc. Final Argument, p. 2.
[320] Exhibits E-1, E-6, E-13, E-19, E-34, E-36, E-40, E-44, E-45, E-49, E-51, E-61, and E-67.
[321] Exhibit E-13.
[322] Oral Workshop Transcript Volume 2, Suncor, p. 342.
[323] Exhibit C5-2, Appendix A, pp. 28-29; Oral Workshop Transcript Volume 2, p. 555-556, 566.
[324] Oral Workshop Transcript Volume 4, p. 743.
[325] Oral Workshop Transcript Volume 2, p.566.

The Panel accepts that this is a reasonable way to deal with this and is likely a common method used by all centrally controlled gasoline retailers as a means to deal with the multitude of changes.

With respect to how the pricing evolves on the street Navius explains that rapid fluctuations in gasoline and diesel prices over each day and throughout the week are known as "Edgeworth Cycles". Within the model of Edgeworth Cycles, firms will incrementally undercut each other with many small price reductions as they compete for market share. Eventually, one firm will relent and stop trying to increase their market share and will instead raise prices to maximize profits with a higher margin. Other firms will follow that price increase since they no longer need to lower prices to be competitive. Thus, the Edgeworth Cycle is characterized by fewer large price increases and many small price reductions. Because firms can easily monitor competitors prices (e.g. with drive-by checks or online information), it is not unusual for prices to be very similar across many retail stations and for price changes to happen almost concurrently.[326] Figure X shows what has been described as the "rocket" and "feather" relationship within the gasoline market:[327] Navius explains that most research indicates that rapid retail price cycles that fit the Edgeworth Cycle model are the result of competition.

Figure 43 - Edgeworth Cycle – An Illustration



Further, Canadian data from the 1990's indicates that price cycles are more prevalent, larger and faster in less concentrated markets where there are more independent entities, while a lack of variability in prices tends to occur in markets with fewer firms.[328] What distinguishes BC is that this cycle is often completed within a single day rather than over a longer stretch of time. This in effect puts the customer into the position of being a trader in a commodity market. In doing so, the customer must develop strategies to determine when, within a day it is best to access the market in order to get the optimum price. This makes the purchase of gasoline much different than other regular purchases like groceries or hard goods that periodically have time limited sale events which the consumer can take advantage of.

Within the inquiry it was acknowledged that this type of price cycling model was an appropriate illustration of what actually occurred within various markets.[329] In addressing this common cycle of price changes Dr. Kahwaty

[326] Exhibit A2-2, p. 21.
[327] Exhibit A2-3, Kent, p. 123 of 210
[328] Exhibit A2-2, Navius, p. 21
[329] Oral Workshop Transcript Volume 1, p. 259, 566; Oral Workshop Transcript Volume 4, p. 743, 757; Parkland Final Argument, p. 85.

stated that “this was not evidence of coordinated conduct, it’s not evidence of cartel conduct. We view that as being a highly competitive outcome”.[330]

Panel Findings

There was a common view held by both marketers and retailers that the BC market could be described as an exemplary competitive market that is operating exactly as it should. In arguing this they have relied heavily on explanations of how the market works within the province and how customers react in those cases where a competitive price offering is not made. Put simply, if a retailer fails to respond to competitive pricing by a fellow service station operator, they do so at the risk of not only losing a gasoline or diesel sale but also the higher margin retail sale that potentially accompanies it. The Panel does not disagree with much of what has been said and the positions that have been taken. **The Panel finds there is no evidence to suggest that collusion among the retail operators exists nor is their evidence of cartel behaviour. The Panel also finds that while there is an opportunity for effective market control, there is no evidence of market power being exercised.** On the contrary, it seems clear that service stations keep a close eye on the activity of competitors and react quickly to any price changes either up or down in the marketplace.

This is not to say we are suggesting that the pricing model employed in the BC market is performing optimally. It is clear that gasoline and diesel pricing activity at the service station level is very active and adjusting prices in reaction to competitors is the order of the day or what Parkland has referred to “the ticket to the game”. However, the question arises as to whether much of this price cycling could be a form of unplanned “tacit coordination” where in a given market the players operate independently yet in a predictably coordinated fashion. Prices move up and down in a manner that gives the appearance of a functioning competitive market but it is also possible this pricing behaviour is tacitly choreographed such that there are numerous price changes throughout the day with no stable price point being established.[331] This scenario, if accurate, is not illegal but it does result in excessive daily volatility. In the Panel’s view this excessive volatility may not be in the interests of BC consumers as it causes frustration. However, we note that it may help to explain the higher retail margins attributed to the BC market.

Notwithstanding the potential for other factors to be in play, the question that must also be addressed within this Inquiry is whether price cycling as it is employed in parts of the BC market is in the best interest of the consumer. The issue of volatility related to price cycling has been raised by numerous British Columbians in their letters of comment which have identified the high level of volatility as a source of significant frustration. In addition, these letters have raised issues with respect to price differences between different communities in the interior and Vancouver Island as well as providing examples of instances outside of Metro Vancouver where gas prices did not seem to vary much from prices within the Metro Vancouver area where an additional tax is in place. On the other hand, we have heard from interveners of instances where, close to the border, gas prices below cost have existed on occasion for extended periods. These may all be explained by price cycling but regardless, have become a source of consumer frustration."

The Panel recently observed an example of price cycling over a period of a few days. We are able to confirm that at least in this example, price cycling is prevalent. We observed price cycling downward (by 10 to 12 cents) at an escalator pace and then moving back up all at once as if on an elevator…all within the period of a single day. It is unclear to the Panel whether it is one operator who typically initiates the move to escalate prices down in a

[330] Oral Workshop Transcript Volume 1, p. 124.
[331] Oral Workshop Transcript Volume 1, p. 124; Oral Workshop Transcript Volume 4, p. 733.

particular market and elevates them back up in each market or whether different operators take the lead. In either case it could indicate market price leadership where market followers set pricing in reaction to the price leadership exhibited in the market and might imply some form of tacit coordination.

In viewing the price cycling activity from the perspective of the consumer it is easy to understand why there appears to be widespread frustration and distrust with gasoline pricing within the province. Therefore, while the Panel has concluded that the pricing practices employed in the retail service station market can be described as competitive and therefore operating within the law, we are unable to conclude this competitive activity is necessarily in the best interests of the consumer. **The Panel finds that a potential option to consider would be some form of retail regulatory model**. However, a more fulsome understanding of customer concerns is required to better understand whether some form of regulatory model is appropriate or whether price volatility is best endured as a consequence of a competitive market.

6.9.2 Analysis of Retail Margin

For the purposes of this Inquiry the Panel has used the term retail margin as it is generally used in the industry - "the difference between the amount a retailer pays for gasoline and diesel and the amount the retailer charges its customers for gasoline and diesel, excluding taxes". Based on a similar definition the NEB reports that in April 2019, the retail margin for regular gasoline in Vancouver averaged 10.5 cents/litre which was approximately 54 percent higher than the Canadian average marketing margin.[332] Deetken's Phase 1 report provides similar observations, stating:

- Gasoline retail margins in BC and to a greater extent in the Vancouver area have risen above the average found elsewhere in Western Canada.
- When compared to other parts of Western Canada, diesel prices in BC have remained largely consistent with historical trends.[333]

In addition, one intervener also indicated that their gasoline and diesel margins are doubled in BC as compared to Québec.[334] Further, none of these assertions were disputed by interveners in spite of them coming up and referred to over the course of the proceedings.

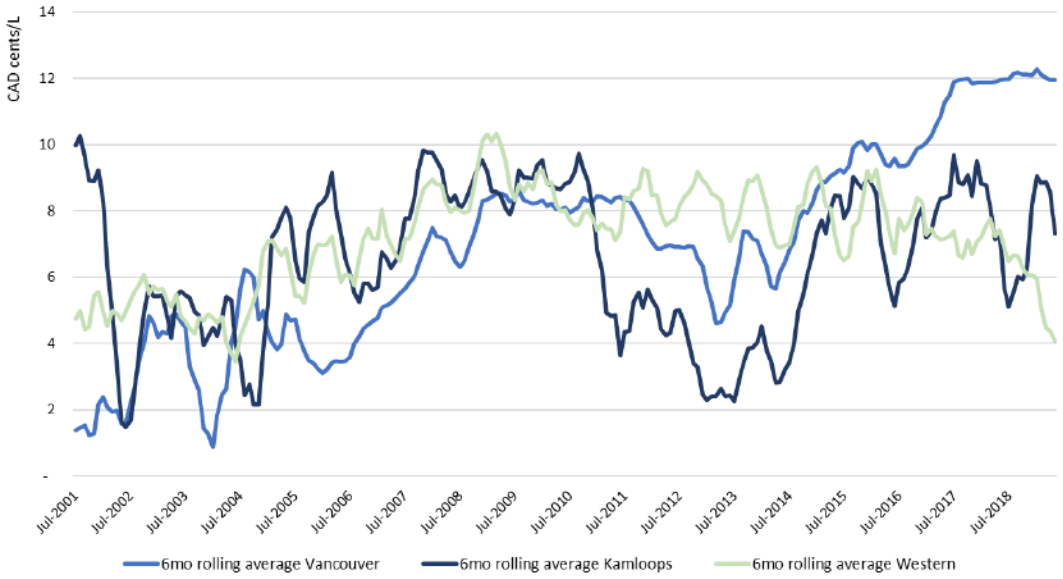
Deetken reported that retail gasoline margins in Vancouver appear to have grown beyond the retail margins in other Western jurisdictions, while the retail margins in Kamloops appear to be more consistent with other locations.[335] This difference is likely a reflection of the Vancouver and southern BC region being reliant on the PNW for their marginal price guidance while Kamloops was reliant on that of Edmonton.

This is illustrated in Figure 44 which provides a comparison of average (six months rolling) gasoline margins between Vancouver, Kamloops and the Western provinces of Canada.

[332] Exhibit C4-3, p. 5.
[333] Exhibit A2-1-1, p. 5.
[334] Exhibit C3-8, p. 4.
[335] Exhibit A2-1-1, p. 6.

Figure 44 - Retail Margin Comparison – 2001-2018

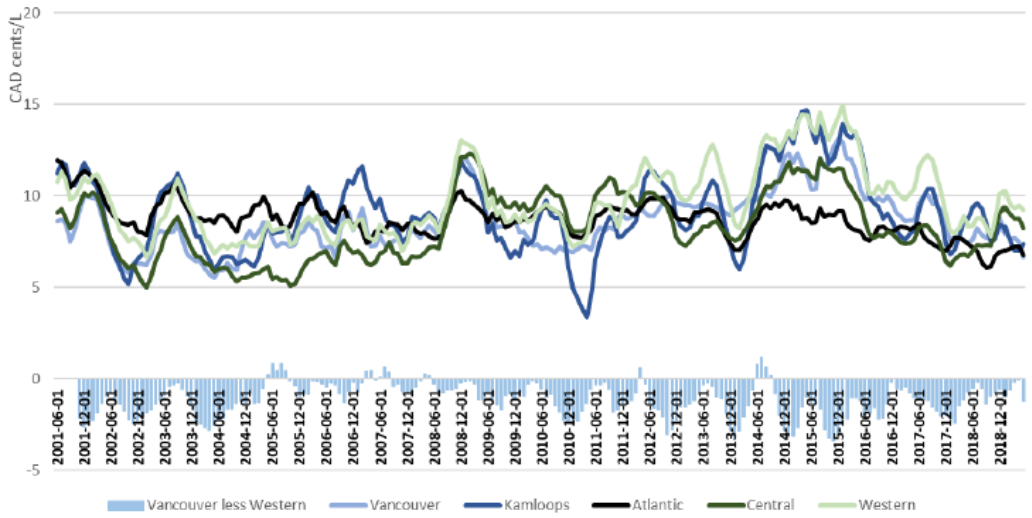
Chart 2.0.2 Six month rolling average gasoline retail margins in Vancouver, Kamloops and the Western Region[8]



Worthy of note is the sharp divergence in margins between Vancouver and the other markets starting in and around late 2015 and continuing to the present with Vancouver rising to levels above 12 cents per litre. A similar chart comparing diesel illustrates a different picture with all regions having similar margins and the size of margin being much lower in the 7 to 9 cents range.[336]

In contrast to gasoline retail margins, diesel retail margins in BC do not appear to follow the same upward trend in the post-2015 period.[337] In fact, the retail margins in Vancouver, Kamloops and the Western region have remained fairly constant over the period under review as shown in Figure 46.[338]

Figure 45 - Six-Month Rolling Average Diesel Retail Margins BC and Canadian Regions



[336] Exhibit A2-1-1, p. 6.
[337] Exhibit A2-1, p. 28.
[338] Exhibit A2-1-1, p. 64.

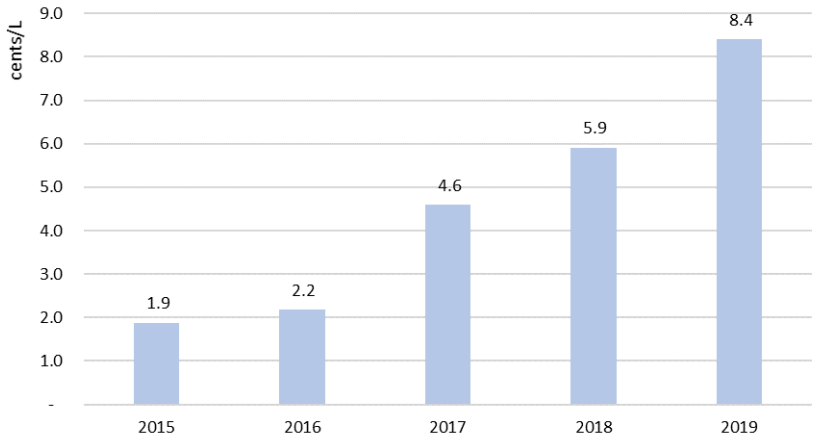
While gasoline and diesel are considered alternatives in the long-run, in the short-run consumers are tied to one fuel source due to the high costs of purchasing a new vehicle. Because of that, Deetken suggests that the demand dynamics of these markets are subject to independent forces. Conversely, on the supply side, these fuels are highly interconnected as they are refined at the same facilities using the same crude and are sold to the end customers by the same retailers.

On the demand side, Deetken found that the demand for diesel is more elastic than the demand for gasoline, meaning that the potential for a decrease in the quantity of fuel consumed following an increase in price is greater for diesel than for gasoline. Thus, it can be hypothesized that if retailers choose to increase prices the choice of the good that has a relatively less elastic demand, in this case gasoline, will serve to minimize the impact of the price increase on total sales. As diesel demand has been found to be more elastic than gasoline demand, Deetken suggests that increases in retail margins may have been applied to gasoline rather than diesel.[339]

Explanation of the Retail Margin Variances Across the Western Region

Figure 46 shows the retail margin differential in Vancouver with respect to the average across the Western Region. Deetken, noting that retail margins for gasoline in Vancouver have grown beyond those observable in other Western Canadian cities examined a number of variables it considered to be helpful in understanding this differential.

Figure 46 - Retail Margin – Differential between Vancouver and the Western Region[340]



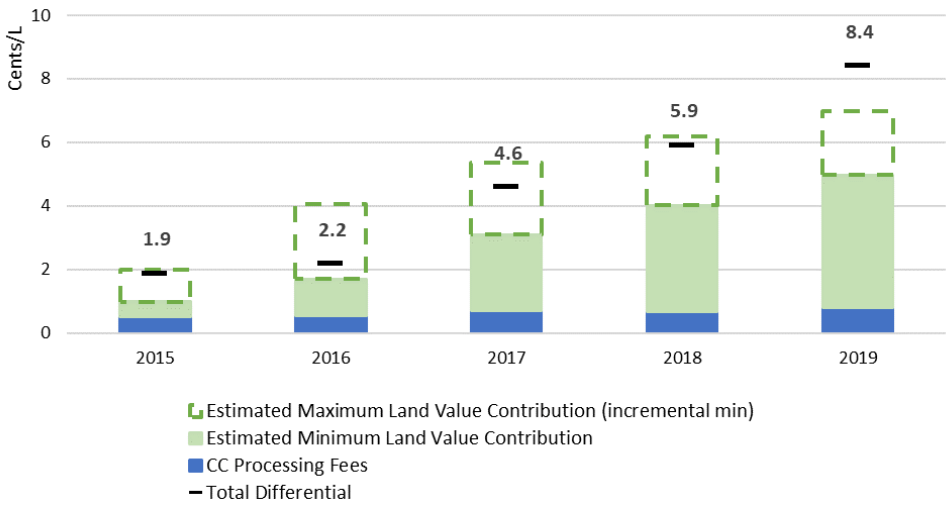
These included operational costs, competition and land costs. In their assessment there were a number of factors which could be eliminated. These included changes in throughput, labour costs and changes in the competitive landscape. However, in their estimation credit card fees and land costs were found to have differential impacts in Vancouver in relation to the Western Region. In Deetken's estimation credit card fees account for approximately 1 cpl of the margin differential and land values which it states have risen steeply in Vancouver account for 4.2 to 6.2 cpl of the difference.[341] Deetken explains its hypothesis regarding this relationship between land value and growth in retail margins as follows:

[339] Exhibit A2-1-1, p. 66.
[340] Ibid., p. 15.
[341] Ibid., p. 29.

If the value of the *next best* use of the land rises, the return must rise or the land will be sold. For example, if the land used for the storefront location could be sold for a housing development (subject to zoning considerations), the property owner will require a higher return on either (i) lease/rent payments as in Scenario 1 above (i.e. the landowner rents the property to the retailer), or (ii) from the retailing business, as in Scenario 2 above (i.e. the retailer is also the landowner). Otherwise, the landowner will be better off selling the land.

Deetken has summarized the impacts of these two factors graphically in Figure 47.

Figure 47 - Factors Explaining Retail Margin Differential[342]



depicting the impact of land prices and credit card fees against the differential in retail margins that it calculated. For land prices the solid colored area represents Deetken's minimum land value contribution while the dotted line represents the maximum value. In Deetken's view, these two factors account for all of the retail margin differential between Vancouver and other Western Region cities in all but 2019 where the data is not yet complete.

Parkland has argued that the higher retail margin since 2015 reflects standard market dynamics. Parkland states that retail margins have decreased since 2015 as a percentage of pump price and explains that costs affecting all retailers get passed on to consumers pointing out that since 2015 the carbon tax has increased by 2.22 cpl for gasoline and 2.56 cpl for diesel. Parkland also point out that wages, with specific reference to the increase in BC's minimum wage as well as maintenance and utility costs, have all increased and thus, must be covered by retail margin.[343]

In keeping with Deetken's analysis Parkland note that taxes, rent and the opportunity costs have risen significantly since 2015. In addition, Parkland argues that the entire retail margin differential between BC and the Western Region can be explained by Deetken's analysis of land values and credit card fees which leave only a small unexplained amount. To explain this Parkland points to what it describes as the precipitous drop in margin in the major Western Canadian cities. They contend that the differential is a reflection of this drop in retail margin rather than an increase in the margin in BC.[344]

[342] Exhibit A2-1-1, p. 30.
[343] Parkland Final Argument, p. 58.
[344] Ibid., pp. 85-87.

Generally speaking, there was support among the marketer retailer group with respect to Deetken's characterization of land value being an explanation for the largest part of the difference in retail margins. However, none went so far as to try to explain how the actual retail price at any point in time is directly impacted by the value of the land where a particular service station was located. Perhaps summarizing this relationship best is the submission of 7-Eleven: "While land or rental costs may not factor into a day by day, hour by hour decision to set a price having regard to the competition, if there is not an adequate return on the investment over the longer term, it may not be worthwhile to stay or to expand in the market"[345].

Calculation of the retail margin

As touched on earlier, the definition of the retail margin is, in the most simple terms, the difference between what the retailer pays for gasoline and the price it is sold. the Kent Group is the most relied upon source for independent data gathering of such information. It regularly tracks current rack rates and retail prices and based on these, provides the industry with regular estimates of retail margins. An examination of their methodology identifies two areas of concern:

1. The starting point for the calculation - the rack rate; and
2. The practice of canvassing the retail price of gasoline and diesel at a specific time each morning.

Parkland makes a similar point arguing that there are significant limitations with Kent Group's measurement methodology and stating that Kent Group regularly collects its retail gasoline and diesel pricing data every weekday morning at 10:00 am. Because some markets in BC exhibit significant price cycling activity there can be significant price decreases over the day. Because of this, the Kent Group's retail margin estimates when this occurs could be significantly higher than actual gross margins averaged over the course of the day.[346]

Reliance on the Rack Rate

The problem of relying on the rack rate is that it is not the actual wholesale price paid by retailers and is generally discounted. The evidence in this Inquiry has been clear that based on volume marketers and retailers qualify for rates that are lower than the rack rate. Because of this, the refiner margin is likely inflated and the retail margin is likely much higher than reported.

Canvassing of Retail Prices

The effects of price cycling and the potentially large number of daily price adjustments have been broadly discussed within this section. If prices are canvassed at a certain time of day there is no guarantee that the prices being reported are close to that at which most of the fuel volume has been sold. As a consequence, the retail margin being reported could vary significantly from the actual amount depending upon when it was sold and at what price.

Panel findings

The evidence supports the Panel finding that reported retail margins for gasoline sold in BC are higher than other parts of Canada and with respect to Western Canada this divergence has increased since 2015. However, these retail margin differentials are not present in Kamloops as they follow the trend in the Western Canada Region quite closely. By contrast, Vancouver appears to have outpaced the growth in retail margin in Western

[345] Oral Workshop Transcript Volume 2 p. 568.
[346] Parkland Final Argument, p. 85.

Canada starting around 2015. This would indicate that in recent years, higher retail margins are skewed toward the south coast and specifically Vancouver.

However, a closer examination of the way retail margin information is collected indicates there are difficulties pinpointing the actual or even an average price at which gasoline and diesel is being sold in a day, a concern that was echoed by Parkland. However, the Panel notes there is no evidence to indicate that the method for calculating the retail margin does not pose similar difficulties in other jurisdictions with similar impacts.

A second concern related to the validity of retail margin estimates is placing reliance on a rack rate as a basis for the calculation of the retail margin. Since the rack rate is commonly discounted and the level of discount varies among marketers and retailers, it is difficult to determine with a strong degree of accuracy the amount the retailer is paying for the gas being sold. That said there is no evidence that the level of discounts in BC are different than those given to operators in the rest of Canada.

Given these circumstances, the Panel finds that due to these issues that are related to the calculation of the retail margin and their effect on the validity of the actual retail margin numbers being reported, only limited weight can be placed on the magnitude of reported differences in retail margins between regions. However, the Panel is satisfied that these numbers are directionally correct. The Panel suggests that further work be done to find a methodology that recognizes current pricing trends yet allows for the collection of more accurate information on retail margins.

The Panel questions Deetken's explanations regarding the apparent differences in retail margins between BC and other Western Canada locations. Parkland has accepted Deetkens explanations regarding the apparent differences in retail margins between BC and other Western Canada locations and argued that land values (along with credit cards) can explain the entire difference in retail margin between BC and the Western Region. The Panel disagrees. There is no evidence that marketers and retailers rely on the value of land in determining retail prices. The record is replete with evidence in support of the contention of many marketers that the retail price is based on strategies undertaken by retailers to capture a larger part of the competitive market. This is not to say that land value is not a consideration. Marketers and retailers universally seemed to agree that the value of land, while not a direct consideration in determining the retail price and the ultimate margin, was an important consideration in a broader sense. Therefore, the value of land was viewed in terms of whether they were earning an adequate return on capital or the value was such that a particular property should be sold. There was no evidence to suggest it was a direct consideration in price or margin setting. **The Panel finds that while the value of land is not a direct driver of prices or margin the opportunity cost related to it might, in certain markets be used to justify a higher retail margin than in other regions with lower land values**. Because of this, the Panel accepts that some level of differential in retail margins between BC and the rest of Canada may be reasonable but cannot be specifically quantified as proposed by Deetken .

Parkland, in addition to reporting there has been a drop in the retail margin in some Western cities outside BC, has made a number of submissions with respect to the additional costs being passed on by the retailer to consumers. Included among these are increased carbon taxes, increased costs associated with wages and costs related to maintenance and utilities. The Panel accepts that these types of costs must be passed on to the consumer but notes these are costs that must be borne by retailers across Canada and there is no firm evidence demonstrating these additional costs are significantly different in BC as opposed to the rest of Canada. We therefore reject this argument as an explanation for the differential between BC and other markets. The Panel

acknowledges based on Parkland's Final Argument that there appears to have been a drop in the retail margin in Calgary, Edmonton and Regina recently. However, the impact of this on the average Canadian retail margin remains unknown and, as discussed, the methodology used to determine the retail margin has flaws.

Parkland has raised a number of valid points concerning the retail margin. The Panel notes that interveners involved in gasoline retailing were asked to provide a comparison of their retail margins between BC and other markets in Canada. A number of responses were received on a confidential basis. Because these responses were confidential we cannot comment on any of the information provided within this report. What can be shared is 7-Eleven's response when asked to address the issue of BC's retail margins being higher than in other parts of Canada during the oral workshop. With respect to price setting in other markets 7-Eleven observes that they "….appear to be more aggressive than competitors in the BC market, for whatever reason…" This would indicate that in their experience BC was less aggressive on prices at the pump which would convert to higher retail margins on gasoline.

7.0 Panel Discussion and Next Steps

With the findings in the report the Panel summarizes some issues for consideration and provides a recommendation for next steps.

The Panel notes that in the August 28, 2019 edition of the Vancouver Sun, Nia Williams made the following comment:

> Canada is the world's fourth-largest crude producer, but congestion on existing export pipelines and delays building new ones have led to deep price discounts, prompting Alberta's provincial government to impose mandatory production curtailments.

The Panel has found that irrespective of the crude oil price discounts in Alberta, the wholesale price of gasoline in BC, particularly Southern BC, are higher than nearby jurisdictions. This is in spite of the two refineries in BC being considered as infra-marginal suppliers or being able to supply at prices less than the other three main wholesalers in BC.

In addressing this discrepancy, the Panel has identified some areas that could be explored further.

7.1 Economic Regulation

In general terms, in the sections above the Panel found that the wholesale market is oligopolistic, with high market concentration levels, high barriers to entry, and the few players can exercise market power. When comparing the Vancouver rack price to the PNW spot, the Panel finds that a large portion of the price differential in recent years cannot be explained using quantifiable cost factors. The lack of access to primary terminals by any entity other than one of the Oil Companies is also a key choke point. While the retail market is less concentrated, the Panel cautions that the higher than Canadian average of refiner-marketers participating in the retail market may still have an impact on being a fully competitive market. In addition, the Panel finds that retail margins in BC are higher than they are in the rest of Canada.

7.1.1 Is there a need to regulate?

On the need for regulation, Scott Hempling states:[347]

> We use regulation to align private behavior with the public interest, in situations where private behavior, unregulated, would conflict with the public interest. More technically, economists view regulation as a tool to reduce economic loss in markets with imperfections—imperfections like economies of scale, high entry barriers, unique products, and insufficient information. Absent regulation, these imperfections can lead to destructive competition, unanticipated scarcity, insufficient innovation, and overconsumption of goods that affect others negatively (for example, cigarettes, or fossil fuels—negative externalities); and under-investment in goods that affect others positively (for example, parks, roads, and schools— positive externalities).
>
> The preceding paragraphs offer an objective view of regulation, as something that can benefit the community as a whole. There are also subjective views of regulation, views expressed by different interest groups. In the context of regulating utility monopolies, consider these eight examples:
>
> 1. Small consumers seek protection from high prices and poor service.
> 2. Large industrial customers seek low rates so they can compete in global markets.
> 3. Shareholders want the utility to earn a fair return on its infrastructure investment.
> 4. Lenders want the utility to have sufficient cash flow to pay off its loans.
> 5. Competitors want market conditions allow them to compete on the merits.
> 6. Low-income citizens need essential services to be affordable.
> 7. Environmental advocates want to minimize environmental damage.
> 8. Rural residents want to ensure universal service.
>
> Some people describe regulation's role as "balancing" these differing interests. "Balancing" presumes that the different interests are necessarily opposing interests. But if interests are legitimate they are not opposed. When a utility performs efficiently, and has reasonable prices, good earnings, satisfied customers, and satisfied investors, benefits flow to everyone: consumers, shareholders, lenders, employees, the environment, and the community's infrastructure. What regulation must balance is not competing private interests but the various components of the public interest—long-term versus short-term needs, affordable rates versus efficient price signals, environmental values versus global competitiveness. That is how regulation serves the public interest.

Economic regulation can encompass a broad range of areas including:

- prices (airline fares, minimum wages, certain agricultural products, telephone rates)
- supply (broadcasting licences, occupational licensing, agricultural production quotas, pipeline certificates "of public convenience and necessity")
- rate of return (public utilities, pipelines)

[347] Exhibit A2-7, p. 2.

- disclosure of information (securities prospectuses, content labelling)
- methods of production (effluent standards, worker health and safety standards),
- standards for products or services (safety of children's toys, quality of food products, Canadian-content requirements in broadcasting) and
- conditions of service (requirements to act as a common carrier or not to discriminate in hiring or selling goods and services).

Many interveners argue that the gasoline and diesel retail and wholesale market is competitive, and as such, does not require economic regulation.[348] Parkland argues that "the conditions precedent for sound regulation are not present here. Regulatory intervention would distort the market to the detriment of consumers".[349] However, Parkland's argument is based on the assumption that the market is fully competitive and that no regulatory intervention is needed.

Specifically regarding the wholesale market, Parkland submits:

> The Inquiry Panel, at times, appeared troubled by how market participants know what the marginal source of supply cost is, given that it is constantly changing. Parkland respectfully submits that competitive market forces are called the "Invisible Hand" for good reason – the price is determined by price signals that may not be readily apparent to an observer. Ms. Lepine told the Panel that, as an economist, her expectation is that the market would be better at identifying the marginal supply source than would a regulator. She also told the Panel that to the extent that regulation did not keep pace with the changes that currently occur in the market, regulation would introduce distortions and arbitrage opportunities.[350]

We agree with Parkland that competitive market forces react to price signals in a more efficient way than can a regulator. However, when reviewing the historical comparison of Vancouver wholesale gasoline vs Washington wholesale gasoline – the acknowledged predominant marginal source of supply - the Panel found a significant unexplained difference in price. The Panel then made the finding that the wholesale market is not truly competitive. Therefore, it appears that the "invisible hand" of an oligopoly may actually nudge prices in a way that is biased upward. In addition, we find that retail margins are higher that the rest of Canada with no clear explanation for the difference.

In its Final Argument, Parkland also pointed out that in the AES Report, "the BCUC cited with approval a paper prepared by the Competition Bureau of Canada that discussed when a market can be deemed to have sufficient competition to protect the public interest. The BCUC stated:

> The Competition Bureau of Canada "believes that a market can be deemed subject to sufficient competition to protect the public interest if no firm operating in it has sufficient market power to unilaterally and profitably impose a significant and non-transitory price increase." Its view, as outlined in a paper prepared by one of its members in respect of deregulation of portions of the

[348] Suncor Final Argument, p. 2; Imperial Oil Final Argument, p. 1.
[349] Parkland Final Argument, p. 6.
[350] Ibid., p. 101.

> electricity market, is that regulation should be avoided where there is sufficient competition to protect the public interest.[351]

The Panel has found that considering access to distribution infrastructure and our concerns about the price setting methodology, this market has the characteristics of a "natural monopoly". In the AES Inquiry, the BCUC stated:

> Regulation is costly, time-consuming, and limited by informational asymmetries. It is only in natural monopoly situations where consumer protection is needed that these limitations are outweighed by the benefits of regulation.

All else equal, the unexplained difference between wholesale gasoline in BC and the rest if Canada results in higher prices for British Columbia and potentially higher profits for wholesale and retail suppliers. However, is this difference excessive? This question is somewhat subjective, and in any event too complex to fully address in the time available. Can it be reduced and at what cost? The assumption is that regulation could potentially reduce this differential.

At issue then is whether consumer protection is needed and, if so, can it be provided for reasonable cost in a way that unintended consequences can be minimized. In the following subsections we consider some regulatory approaches and provide our suggestions and comments.

7.1.2 Price Regulation

Some governments have used price regulation:

- to control the margins earned by the various companies active in the road fuel market;
- to "smooth" the variation in prices over a period of time; and,
- for other stated policy reasons.

The survey in Appendix D summarizes the various price regulation regimes in place in Canada. The Navius report also examined the former price regulatory regime in Hawaii.

Regulation could potentially reduce the wholesale and/or retail margins to that earned in comparable jurisdictions and reduce price volatility. But this needs to be approached with caution. The scope of the Inquiry was not sufficient to determine if such an approach would be of benefit. It is not like setting the rates for a utility monopoly where price discrimination is not allowed and any negative margin incurred to serve a remote customer are offset by the positive margin to serve an urban customer. There are five independent suppliers and over 1,300 retail outlets all with different business models. If price regulation negatively affects one, its losses are less likely underwritten by the profits of others.

Wholesale Price Regulation

One approach to regulating the pump price of gasoline is to regulate the wholesale price. To do so immediately gives rise to the question: How should the regulated price be set?

[351] https://www.bcuc.com/Documents/Decisions/2012/DOC_33023_G-201-12_FEI-AES-Inquiry-Report_WEB.pdf

Possible starting points are the rack price in Edmonton (for Kamloops) and the PNW spot prices (for the Lower Mainland). To this would be added a margin to cover defined costs and an appropriate profit to get the product to the various markets. This approach could potentially bring prices inline with the rest of Canada with minimal market disruption.

A drawback to this approach is that there are contracts between suppliers and the marketers/retailers that have a large variety of discounts/premiums for a variety of business reasons. There are also many business models used to cost the delivery of product to the retail locations with a corresponding variety of price points.

There are uncertainties as to whether a regulator will do a better job than is currently being done by the Oil Companies. In regulating the wholesale price, a regulator would in all likelihood go through a similar process as the Oil Companies currently do. We acknowledged competitive market forces react to price signals in a more efficient way than can a regulator. There may also be unintended consequences, for example, possibly supply shortages, if the regulator sets the wrong price. A regulated wholesale price is forward looking and the data used to cost imports is backward looking. It is impossible to predict, with accuracy, the future cost of imports. Further, Oil Companies can circumvent the regulated rack price by adjusting the discounts and/or premiums to the rack price.

If such an approach is considered, the goals of such regulation must be clearly articulated and be studied (with industry consultation) to determine if:

- It can be done in a cost-effective manner;
- Is it more efficient than that which is presently in place;
- Will it have unintended consequences, such as reduction in supply such that there are shortages; and
- Will it achieve the goals?

Retail Price Regulation

If retail price regulation is considered appropriate (assuming there is no regulation of the wholesale price) it can take the form of a regime used elsewhere in Canada. One example is that used in Nova Scotia. Adders for a retail margin plus a transportation allowance are used to set a minimum and maximum retail price by region. The price is set once a week, unless the underlying cost of either gasoline or diesel changes by a significant amount. If this happens the price is reset before the usual weekly change. This helps to ensure that the prices are not too much out of line with the wholesale price such that it could lead to supply shortages. The cost to regulate the prices could be added to the pump price as a tax.

Pros:

1. Could reduce the retail margins to what is earned in the Rest of Canada; and
2. Will minimize retail price variability over a period (weekly, bi-monthly) of time.

Cons:

1. Elimination of low-cost suppliers/retailers (e.g. Costco will not sell gasoline in Nova Scotia because its low-cost model is not allowed);

2. The set price becomes the focal point for co-ordinated pricing (all retailers automatically go to the minimum);
3. Fewer, but larger, price changes;
4. Inability of the public to take advantage of price cycles;
5. Loss of enhanced competition that can be brought about by price cycles; and
6. Administration costs for the regulation is added to the retail price.

One concern is that the "reward" for less volatility may be much less than the "cost" of regulation. There are no economic studies (according to Dr. Kahwaty) that put a value on lower volatility. It may also cause some low-cost providers (such as Costco) to leave the market. The concept needs to be explored with the industry and the public to determine what are the desired benefits and whether they are achievable at an agreeable cost.

7.1.3 Regulating Supply Chain Access

As an alternative to price regulation, access to various points in the supply chain can be regulated. An example of this is the regulation of the Trans Mountain Pipeline that carries crude to BC refineries. The pipeline is owned and operated by a third party that is not directly involved in the production and distribution of any of the products it carries. Access to the pipeline is regulated and is apportioned on a basis that serves the public interest. Tolls are set at rates that are just and reasonable and allow the owner/operator to recover their costs and earn a fair return.[352] This is so because a pipeline is considered a natural monopoly. In contrast, other transportation portions of the supply chain – rail and truck – are generally accepted as being competitive markets.

There are two key components that could potentially be candidates for access regulation: terminals and refineries. We consider both of these components below.

7.1.3.1 Primary and Bulk Terminals

As discussed previously, virtually all gasoline entering the province is brought in by Husky Energy, Imperial Oil, Shell, Suncor and Parkland. The Panel has previously found that it is not practical or even possible, given the existing infrastructure, for a third party – for example a retailer such as Super Save or 7-Eleven - to import gasoline by rail or marine, should they choose to do so.

This is because essential elements of infrastructure required to do so are marine and rail terminals and there is no way to acquire space in these existing terminals. A retailer or other party could import a truckload of gasoline and deliver it directly to a service station(s). However, this is a costly solution that is limited to supply from only those closest refineries.

A related issue is whether there is sufficient capacity in the existing terminal infrastructure to accommodate third parties, should they be able to acquire access rights. The evidence in this Inquiry suggests that while there isn't currently a shortage, the terminal infrastructure is sized to meet each owner's market needs.

[352] Section 62 of the National Energy Board Act. Tolls to be just and reasonable: All tolls shall be just and reasonable, and shall always, under substantially similar circumstances and conditions with respect to all traffic of the same description carried over the same route, be charged equally to all persons at the same rate.

Husky Energy states that it is not "aware of any barriers to independent parties building additional terminals at their own cost and risk".[353] While it may be true that it is theoretically possible for a third party to build a terminal, there are many practical barriers to doing so. Even if there is a need for additional capacity, the siting and permitting process could prove challenging and a disincentive to investment.

The benefit of opening up the terminal infrastructure is that it could potentially reduce the market concentration in the wholesale sector, thereby providing more impetus for competitive pricing. For example, it could provide the ability for sellers to arbitrage excess gasoline that is sourced globally. This type of access regulation avoids the unintended consequences of wholesale price regulation.

The terminal can be regulated on a cost of service basis. The terminal operator would be provided a regulated fee to operate the terminal which is recovered in fees charged to users of the terminal. The terminal owner is provided with a regulated rate of return for its investment.

Another example of open access in the supply chain is a "common processor." If a terminal is common, terminal owners would be required to provide access to all parties on identical terms.

The potential concern with this regulatory approach pertaining to terminal access is that given the small number of market participants, it would be relatively easy to drop rack prices for sufficient period of time to prevent new participants from entering. Therefore, this approach may need to be combined with a regulated wholesale price floor.

7.1.3.2 Refineries

Refineries could also be common processors. This achieves a similar result to the "crude contracts" discussed in Dr. Jaccard's report. Again, as in the case of common access terminals, this type of access avoids the unintended consequences of wholesale price regulation. However, only 30 percent of the gasoline consumed in BC is produced by the two BC refineries. The province has no jurisdiction over refineries outside the province that provide the remaining 70 percent of gasoline. The next question is then what is the likelihood that more refining capacity will be available in the future.

The Panel previously discussed the challenges that a company will face in terms of environmental approvals, costs, and risks associated with investing in a new refinery, although there is one company that submitted a letter of comment regarding the potential to build a new refinery in BC.[354] Also, the new refinery will also need to ensure that it has sufficient crude feedstock supply. There is no evidence to suggest that there is a shortage of gasoline and diesel imports available. Other considerations may come into play as well if BC is to invest in more refining capacity. These considerations may include security of gasoline supply, economies of scale, jobs, and gasoline exports to PNW (thereby potentially driving down prices). This new refinery could be built as a common processor with a guaranteed rate of return. However, given the possibility of long term global overall declining gasoline demand, again private sector would likely need some sort of guarantee.

[353] Exhibit C7-7, p. 2.
[354] Exhibit E-64.

7.1.4 Who should regulate?

Parkland argue that the BCUC has previously found that "the Competition Bureau of Canada, not provincial economic regulators, properly addresses anticompetitive concerns."[355] We agree. However, the Competition Bureau focusses on the following elements:

- Combating businesses who agree to act together to fix prices, rig bids, allocate market or restrict supply;
- Ensuring dominant companies do not exploit their market power or engage in acts that lessen competition; and
- Promoting truth in advertising by discouraging deceptive business practices and how you can make informed choices.[356]

There is no evidence that these elements are present here. The current wholesale gasoline and diesel market is an oligopoly that has characteristics of a natural monopoly. Natural monopolies are typically regulated by provincial and national economic utility regulators and not by the Competition Bureau.

The Panel notes that prior to 1987, the former Part 4 of the Utilities Commission Act gave the BCUC general regulatory authority over the petroleum industry in the province and gave the provincial government the authority by Order in Council to set maximum prices for petroleum products, including gasoline. [357]

That said, the Panel make no recommendations regarding what agency should regulate the gasoline and diesel market, should a decision be made to regulate it.

7.2 Transparency of data related to the gasoline and diesel market

Various subscription services such as the Kent Group[358] and the OPIS[359] provide information on the price of crude oil, wholesale gasoline and diesel prices, retail gasoline and diesel sales volumes and this provides some level of price transparency in BC. Price transparency refers to the availability of data that would allow a suitably skilled analyst to explain the prices observed in the market.

For example, the Kent Group provides daily crude oil prices for crudes oil, daily rack prices for gasoline and diesel by city, with four BC locations and two suppliers (Suncor and Shell), daily survey of gasoline and diesel retail prices by city covering seven BC locations and retail gasoline and diesel sales volumes by individual retail sites.

OPIS for example provides daily rack prices and diesel at eight BC locations, daily spot prices for gasoline and diesel priced in the PNW market, daily rack pricing for ethanol and biodiesel in Seattle, and for biodiesel in Vancouver.

Although having information on the rack prices and spot prices does provide some transparency, there may be multiple rack prices depending on the relationship between the fuel suppliers to the wholesale distributors and

[355] Parkland Final Argument, p. 90.
[356] Competition Bureau, https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/h_00101.html.
[357] Exhibit A2-18, p. 4.
[358] https://charting.kentgroupltd.com/.
[359] https://www.opisnet.com/.

retailers. The price for unbranded retailers can be different from the potentially discounted price for branded retailers. [360]

Navius' report states that the level of price transparency in BC is similar to the level of price transparency in other parts of Canada. The report also notes that there is no detailed collection of input, outputs and costs from the fuel suppliers, wholesalers or retailers to regulators anywhere in the Canadian market.

Parkland argues that "Adopting detailed ongoing reporting and transparency measures in the context of a competitive market would be unique, put upward pressure on retail prices, and deliver no benefit to BC consumers."[361]

Dr. Kahwaty characterized the Navius concept as "extraordinary", both in the context of gasoline and diesel markets and for other products as well:

> The highlighted gaps in information availability, list of unknowns, and focus on understanding returns on capital "with certainty" show the tremendous breadth of data and information the authors of the Navius Report think is required to address any issues with price transparency in wholesale and retail markets for gasoline and diesel. The authors do not point to a single market where such information is collected and analyzed. Even if certain amounts of data are collected by regulators of natural monopolists (e.g., electric power distribution infrastructure), the collection of such detailed data in a market with numerous suppliers is extraordinary. In what industries are data on the discounts in supply agreements or the details of the "specific slate" of inputs used collected and analyzed? The request to understand the "business cost" of each stage in the pipeline is mentioned without any analysis of the extent of information required to meet the request, the burden on parties to collect it, the benefits from having it, or the ability of any "suitably skilled analyst" to analyze it. Information such as this is not collected and analyzed in markets for grocery items, over the counter drugs, or other consumer products.[362]

Parkland also submits that "[t]he three jurisdictions identified by Navius prepare reports for public consumption that provide only very general information about how the markets function or aggregated data. BC consumers already have access to that type of information today. The Washington Quarterly Gasoline Reports look very much like the FAQs and information sheets currently published by the Competition Bureau of Canada to educate consumers. Companies in BC already report imports and exports to the Provincial government, which reports that information to the public. Moreover, services like GasBuddy.com provide detailed information on gasoline prices. The Kent Group makes a significant amount of information available as well."[363]

Given these circumstances, even if no further actions were to result from the findings of this inquiry that at a minimum, consideration should be given to having a process in place to where information on key indices can be collected and analysed on an ongoing basis. The Panel believes that the public interest will be well served by developing such a process as it will allow a level of scrutiny and oversight to be undertaken on behalf of the public. Aside from the benefit of providing a level of credible oversight there may potentially be additional

[360] Exhibit A2-2, p. 11.
[361] Parkland Final Argument, p. 103.
[362] Ibid., p. 104.
[363] Ibid., p. 105.

benefit as this oversight may help curtail any questionable pricing practices which may exist in individual markets or on a broader scale.

Further study should be initiated to determine those factors which are most important to provide market oversight and what information is best provided by an outside information service provider and information that is best provided by Oil Companies directly or market-retailers. The Panel takes no position as to which body within the province is best suited to undertake this work.

7.3 Transportation Electrification and Electric Vehicles

While the demand for gasoline and diesel has remained relatively stable in recent years, the long term forecast for passenger and freight demand for energy is expected to decline through 2040.[364] Over time, as new vehicles enter the fleet, consumers may choose to substitute their internal combustion engine vehicles in favour of electric vehicles. Dr. Kahwaty attributes this effect as the elasticity of demand over time.[365]

In the BCUC's Inquiry into the Regulation of Electric Vehicle Charging Service (EV Inquiry)[366], participants of that inquiry showed some strong interest to see mass adoption of EV and accelerated development of the EV charging market.[367] All levels of government have set policies and incentives to encourage transportation electrification, including cash rebates for EV purchases, funding for EV charging infrastructure, and requirements for EV ready parking stalls.[368] Both the Federal and BC Government have announced similar targets that aim to have all new light-duty vehicle sales to be zero-emission by 2040.[369] Evidence in this Inquiry shows that oil companies are aware of these changes in the transportation sector and the related policies that affect their business.[370]

A movement towards transportation electrification is expected to decrease fuel demand. Whether the decline in fuel demand is driven by consumer preference or otherwise, holding all else equal, a downward shift of the demand curve in a competitive market due to transportation electrification will drive gasoline and diesel prices down. However, there is a risk that the gasoline and diesel market could be at least partially abandoned thereby creating supply shortages and driving fuel prices up. Therefore, the Panel finds that transportation electrification is an additional factor that will influence gasoline and diesel prices in the long run. The Panel recommends that if any mechanisms are used to moderate price fluctuations and increases they should consider the potential impact of transportation electrification.

7.4 Trans Mountain Pipeline Access

The differential in the increase in wholesale prices when compared to Seattle and Edmonton started to increase in 2015. Coincidently that was when apportionment methodology on the TMPL was changed. The amount of crude and refined products sent on the pipeline to serve the BC market was reduced starting then, such that it is

[364] See Section 5.2.4.4 of this report.
[365] Exhibit C5-9, p. 115.
[366] British Columbia Utilities Commission (BCUC), 2018 Inquiry into Electric Vehicle Charging Service (EV Inquiry) Phase 1, https://www.bcuc.com/ApplicationView.aspx?ApplicationId=613; EV Inquiry Phase 2, https://www.bcuc.com/ApplicationView.aspx?ApplicationId=653.
[367] BCUC, EV Inquiry Phase 1 Report, p. 42; EV Inquiry Phase 2 Report, p. 21.
[368] BCUC, EV Inquiry Phase 1 Report, pp. 6-7, 41.
[369] BCUC, EV Inquiry Phase 2 Report, pp. 3-4.
[370] Exhibit C5-9, Exhibit C5-2, Parkland, pp. 9-10, Expert Report of Dr. Henry J. Kahwaty, pp. 111-114; Oral Workshop Transcript Volume 1, p. 170; Oral Workshop Transcript Volume 2, p. 303; Oral Workshop Transcript Volume 2, p. 543.

now almost half of what it was before 2015. This meant that those suppliers who relied on the TMPL to meet their needs had to find other ways to get product. The BC market demand has reduced slightly, but not as much as the reduced supply of product on the TMPL.

The other ways to get product to the BC market are more expensive than the TMPL. This may help to explain some of the reason for the increase in the wholesale price differential, but not all. One way to help reduce this differential would be to supply more product into the BC market using the most cost-effective method (e.g. pipeline). The expansion of the TMPL provides such an opportunity.

As discussed in the report, the expansion of the TMPL does not have a guaranteed allocation of capacity that can be used to supply road fuels to the BC market. There is no evidence before the Panel about such an allocation. What evidence there is, indicates that all the expansion capacity for product flow is for crude, mainly for export.

This issued should be explored further to ensure that some of the increase in capacity for product flow through the TMPL expansion is reserved to supply the BC gasoline and diesel market.

7.5 Harmonization of Federal Fuel Standards

One of the reasons for the increased cost of gasoline between Canada and the U.S. is that the fuel standards are different. Once gasoline has been made to meet the U.S. standards it cannot be altered so that it could meet Canadian standards. If the standards were harmonized in such a way that U.S. gasoline could be altered to meet Canadian standards there would be cost savings.

The BC Government may want to explore with the Federal Government if such a harmonization is possible and how to enter into appropriate negotiations with the U.S. Government.

7.6 Diesel

As discussed in Section 6.7.2, the behaviour of diesel wholesale prices differs from the behaviour of gasoline wholesale prices over the 2015-2019 period. Deetken explored how diesel may be subject to different supply and demand dynamics than gasoline to explain those differences. On the demand side, the key differences highlighted by Deetken are:

- the wholesale diesel demand is heavily influenced by the demand from the long-haul trucking industry as that industry represents a significant share of BC demand for diesel; and
- the long-haul trucking industry is likely to have higher sensitivity to prices.[371]

As a result, Deetken hypothesized that the higher price elasticity of demand of the wholesale diesel market would explain the similarity in wholesale diesel prices across BC and the Western region. However, direct consumption data from cardlocks and prices on those transactions were not available to directly compute price elasticities in the wholesale market.[372]

As discussed in section 6.9.2, Deetken found that the demand for diesel is more elastic than the demand for gasoline in the retail sector and hypothesized that if retailers choose to increase prices, the choice of the good

[371] Exhibit A2-1-1, p. 68.
[372] Ibid., p. 69.

that has a relatively less elastic demand, in this case gasoline, will serve to minimize the impact of the price increase on total sales. Thus, Deetken suggests that increases in retail margins may have been applied to gasoline rather than diesel.[373]

Further investigation may be warranted to assess the extent to which the possible difference in price elasticity of demand may have caused gasoline and diesel prices to behave differently.

7.7 Further Process in this Inquiry

In the span of 100 days since this Inquiry began, the BCUC received a large number of submissions about all aspects of the gasoline and diesel supply chain and the economics behind it. We acknowledge the contributions made by all participants that shared information about their operations which is important to formulate the Panel's observations, discussions, and findings contained in this report. The Panel is also cognisant of the limited time throughout the summer period for participants to provide information and participate.

We consider that it would be helpful to provide an avenue for participants to provide comments or questions on this report. The comment period would give an opportunity for the Inquiry's participants to inform the Panel if there is any additional evidence relevant to the questions posed in the OIC and that would inform the report.

This exercise will ensure that the Government is presented with the most comprehensive information available to make an informed decision. We recommend a one-month comment period for participants to provide feedback.

[373] Ibid., p. 66.

DATED at the City of Vancouver, in the Province of British Columbia, this 30th day of August 2019.

Original signed by:

D. M. Morton
Panel Chair / Commissioner

Original signed by:

D. A. Cote
Commissioner

Original signed by:

M. E. Doehler
Commissioner

PROVINCE OF BRITISH COLUMBIA

ORDER OF THE LIEUTENANT GOVERNOR IN COUNCIL

Order in Council No. 254 *, Approved and Ordered* May 21, 2019

Lieutenant Governor

Executive Council Chambers, Victoria

On the recommendation of the undersigned, the Lieutenant Governor, by and with the advice and consent of the Executive Council, orders that the attached order, British Columbia Utilities Commission Inquiry Respecting Gasoline and Diesel Prices, is made.

Presiding Member of the Executive Council

(This part is for administrative purposes only and is not part of the Order.)

Authority under which Order is made:

Act and section: *Utilities Commission Act*, R.S.B.C. 1996, c. 473, s. 5

Other:

O20330827

Page 1 of 3

BRITISH COLUMBIA UTILITIES COMMISSION INQUIRY RESPECTING GASOLINE AND DIESEL PRICES

Definitions

1 In this order:

"Act" means the *Utilities Commission Act*;

"gasoline and diesel" includes the components of gasoline and diesel;

"refining margin" means the difference between the amount a refiner pays for crude oil and other components and the amount the refiner charges its customers for gasoline and diesel;

"retail margin" means the difference between the amount a retailer pays for gasoline and diesel and the amount the retailer charges its customers for gasoline and diesel, excluding taxes.

Referral to commission

2 By this order, the Lieutenant Governor in Council, under section 5 (1) of the Act, requests that the commission advise the Lieutenant Governor in Council respecting gasoline and diesel prices in British Columbia in accordance with the terms of reference set out in section 3 of this order.

Terms of reference

3 (1) Subject to subsection (2), the terms of reference, in accordance with which the commission must inquire into the matter referred to it by section 2, are as follows:

(a) the commission must advise on the factors influencing gasoline and diesel prices since 2015 and the mechanisms the Province could use to moderate price fluctuations and increases;

(b) without limiting paragraph (a), the commission must inquire into the following:

(i) the differences, if any, in refining margins among British Columbia and other jurisdictions in Canada and the reasons for any differences;

(ii) the differences, if any, in retail margins among British Columbia and other jurisdictions in Canada, and among different regions in British Columbia, and the reasons for any differences;

(iii) factors that have contributed to the increases in gasoline and diesel prices, both retail and wholesale, including, without limitation,

(A) the access of refineries in British Columbia to crude oil supply and other components,

(B) the amount of gasoline and diesel stored in British Columbia for sale in British Columbia,

(C) usage of refinery and pipeline capacity,

(D) wholesale and retail market sizes and demand,

(E) methods of distribution of gasoline and diesel to retailers, and

(F) seasonal variations in supply and demand;

(iv) the extent to which gasoline and diesel price changes have been determined by competition and the extent to which those changes have been determined by other factors;

(v) measures used in other jurisdictions in Canada and North America to enhance transparency about how gasoline and diesel prices are determined.

(2) The commission may not inquire into the effects of Provincial enactments or policy on gasoline and diesel prices in British Columbia.

(3) Further terms of reference for the inquiry are as follows:

(a) the commission may exercise all of its powers under the Act that the commission considers necessary to conduct the inquiry;

(b) the commission must submit to the Minister of Jobs, Trade and Technology a final report describing the results of the inquiry and including its advice no later than August 30, 2019.

British Columbia Utilities Commission
An Inquiry into Gasoline and Diesel Prices in British Columbia

REGULATORY PROCESS

The regulatory timetable established dates for oral workshops to enable intervenor to question experts retained by BCUC staff, Panel questions to interveners, in camera sessions with interveners submitting confidential information and closing submissions. The regulatory timetable also included deadlines for interveners to file final submissions and for interested parties and the public to submit letters of comment. The BCUC issued Order G-161-19 which amended the regulatory timetable and scheduled additional oral workshops for interveners to submit further evidence requested by the Panel.

The following is the key dates established for the Inquiry:

Action	Date (2019)
Intervener registration deadline and/or confirmation of participation	Thursday, June 13
BCUC Consultant Report, Phase 1	Thursday, June 20
Intervener Expert Evidence; Intervener comments on BCUC Consultant Report (if any), or any other aspects of the inquiry scope items; and Responses to BCUC Questionnaire	Thursday, June 27
BCUC Consultant Report, Phase 2	Wednesday, July 10
Oral Workshop #1 – Panel Questions	Wednesday, July 17 Thursday, July 18 Friday, July 19
Oral Workshop #2 – Panel Questions	Tuesday, July 30
Intervener Final Submissions	Thursday, August 8
Letter of Comments deadline	Thursday, August 8
Final BCUC Report	Friday, August 30

British Columbia Utilities Commission
An Inquiry into Gasoline and Diesel Prices in British Columbia

LIST OF ACRONYMS

7-Eleven	7-Eleven Canada Inc.
Advanced Biofuels	Advanced Biofuels Canada
AFS	Alternative Fuel Standards
Allan and Eliesen	Robyn Allan and Marc Eliesen
APEC	Asia-Pacific Economic Cooperation
API	American Petroleum Institute
BCUC	British Columbia Utilities Commission
b/d	Barrels per day
Costco	Costco Wholesale Ltd.
cpl	Cents per litre
CR_4	Four Firm Concentration Ratio
c-store	Convenience store
Deetken	Deetken Group
EV Inquiry	British Columbia Utilities Commission 2018 Inquiry into Electric Vehicle Charging Service
FCL	Federated Co-operatives Limited
HHI	Herfindahl-Hirschman Index
Husky Energy	Husky Energy Inc.
Imperial Oil	Imperial Oil Limited
Kinder Morgan	Kinder Morgan Inc.
LCFS	Low Carbon Fuel Standard
Mb/d	Thousand barrels per day
Navius	Navius Research Inc.
NEB	National Energy Board
OIC	Order in Council

OPIS	Oil Price Information Service
Parkland	Parkland Fuel Corporation
PNW	Pacific Northwest
RPP	Refined petroleum products
RUL	Regular unleaded gasoline
Rules	British Columbia Utilities Commission Rules of Practice and Procedure
Shell	Shell Canada Limited
Suncor	Suncor Energy
Super Save	Super Save Group
TMPL	Trans Mountain Pipeline
UCA	*Utilities Commission Act*
Widget	Widget Co.
WTI	West Texas Intermediate

Table 12: Summary of Price Regulations and Transparency Measures in North America[374]

	Prince Edward Island	Québec	Newfoundland and Labrador	New Brunswick	Nova Scotia
Regulatory body	Island Regulatory & Appeals Commission (IRAC)	Régie de l'énergie	Public Utilities Board	New Brunswick Energy and Utilities Board	Nova Scotia Utility and Review Board
Enabling legislation	Petroleum Products Act	Petroleum Products Act	Petroleum Products Act	Petroleum Products Pricing Act	Petroleum Products Pricing Act
Duration	1988-present	1997-present	2001-present	2006-present	2006-present
Covered fuels	Gasoline, diesel, stove oil, furnace oil and most propane products	Gasoline, diesel and light fuel oil	Motor fuels, heating fuel, propane heating fuel	Gasoline, diesel and heating fuels (furnace oil and propane)	Gasoline, diesel, propane, heating fuels
What are they regulating	Minimum and maximum retail prices, based on the sum of Charlottetown rack price, wholesale margins, taxes and retail margins. Updated twice a month.	Minimum retail price, based on the sum of loading ramp price, transport cost, taxes and retailer operating costs. Updated weekly.	Maximum retail price, based on the sum of New York Harbor benchmark price, allowed mark-up, provincial zone differential and taxes. Updated weekly.	Maximum retail price, based on sum of New York Harbor spot price, wholesale and retail margins, delivery costs and taxes. Updated weekly.	Minimum and maximum retail prices, based on the sum of New York Harbor spot price, wholesale margins, transportation allowance, taxes and retail margins. Updated weekly.

[374] Exhibit A2-2, p. 6.

	Prince Edward Island	Québec	Newfoundland and Labrador	New Brunswick	Nova Scotia
Goals of regulation	To "ensure at all times a just and reasonable price for heating fuel and motor fuel to consumers and licensees within the province." -Petroleum Products Act, Part 1 "Purpose"	The objectives are to: (1) to ensure the continuity and security of the petroleum products supply; (2) to ensure the quality of petroleum products; (3) to ensure control of the sale price of petroleum products. -Petroleum Products Act, Chapter 1	The PUB is responsible for ensuring fairness in marketing of petroleum products throughout the province in accordance with the Petroleum Products Act.	To "achieve a fair balance between low, stable prices and ensuring that wholesalers and retailers can recover fair margins and delivery costs on their sales." -New Brunswick Energy Resource Development	The purpose of these regulations is to ensure just and reasonable prices for specified petroleum products, taking into consideration all the following objectives: (a) preserving availability of specified petroleum products in rural areas; (b) stabilizing prices of specified petroleum products; (c) minimizing the variances in prices of specified petroleum products across the Province. -Petroleum Products Pricing Regulations, "Purpose of regulations"
Price transparency measures (if any)	Minimum and maximum prices (including margins) are posted online.	The Régie tracks and publishes gasoline and diesel prices by region, as well as analyses about pricing and market developments	Maximum prices are published online.	Maximum prices are published online.	Minimum and maximum prices (including margins) are posted online.

	Prince Edward Island	Québec	Newfoundland and Labrador	New Brunswick	Nova Scotia
Source	www.irac.pe.ca	www.regie-energie.qc.ca	www.pub.nf.ca	www.nbeub.ca	https://nsuarb.novascotia.ca

British Columbia Utilities Commission
An Inquiry into Gasoline and Diesel Prices in British Columbia

REFINING MARGINS, RETAIL MARGIN AND RACK PRICES

The OIC defines refining margin as the difference between the amount a refiner pays for crude oil and other components and the amount the refiner charges its customers for gas and diesel. Retail margin is defined as the difference between the amount a retailer pays for gas and diesel and the amount the retailer charges its customers for gas and diesel, excluding taxes.

The amount a refiner charges its customers is generally set at the refinery gate or loading rack and is commonly referred to as "rack prices." The rack price is the posted price at terminals where refiners deliver refined petroleum product to retailers. Each company sets its own rack price. Suncor and Shell post their rack prices publicly[375] while Parkland reports theirs to OPIS.[376] Husky Energy does not post a rack price for its product sold out of the refinery, but instead bases its prices off the Prince George rack prices posted by Suncor, Imperial Oil, and Shell.[377]

Refiners enter into contracts of varying length with marketers and retailers with terms that can include a discount from and/or a premium to, the daily rack price. Thus, the retailers get a wholesale price that is (in most cases) a discount from rack, or, at times, a premium if sold to a branded controlled retailer,[378] or depending on delivery point.[379] The amounts of these discounts (or premiums) are confidential because they are commercially sensitive. Some amounts were disclosed in the confidential *in-camera* sessions. In general, they do not result in a wholesale price that is materially different from the rack price. Of course, given the volumes sold by some retailers, the total amount for the year is significant to the revenues of the retailers.

There is a related issue with the price of crude oil that forms the floor price for refiners that produce gasoline and diesel for the wholesale market. Crude must be delivered to the refinery so that the actual price paid differs from the posted price. The two BC refineries use Canadian light sweet crude and their delivery costs by pipeline are similar although vary slightly. In the event that they need to import crude from the US or overseas – or even from Alberta by rail – their transportation costs would be higher.

Some refiners that supply the BC market are integrated oil companies – such as Shell and Suncor – that extract crude oil and therefore have the option of using the crude that they extract in their refineries. If they do so, their effective costs to acquire crude may be different from the posted crude price.

In any event, by using the rack price as a proxy for wholesale margin, there is a simplifying assumption made that the base crude price paid for the wholesale suppliers of refined petroleum products is the same.

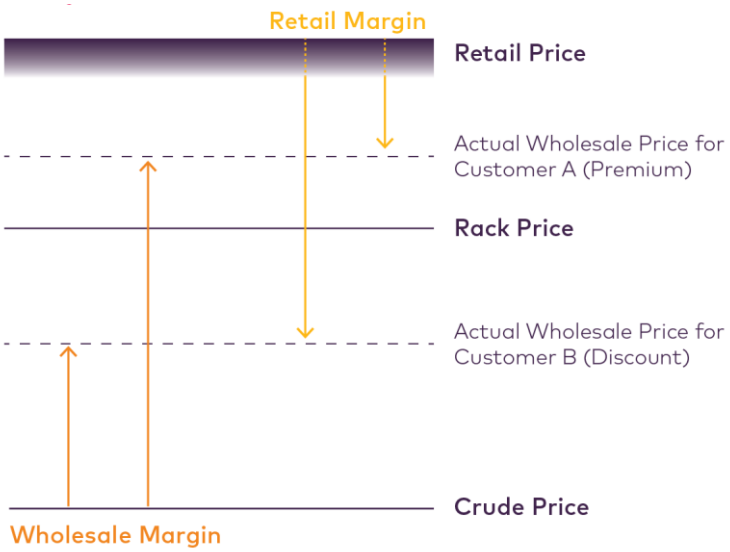
375 T:4, p. 701 (Suncor).
376 C5-25 (Parkland).
377 Exhibit C7-2, Answer to BCUC Question 3.
378 T:4, pp. 707-708 (Suncor).
379 T:4, pp. 665-666 (Parkland).

As a result, it is difficult to reconcile the terminology in the OIC with that used by the refiners, marketers and retailers. The generally available and known data points are:

1. Crude oil trading price;
2. Rack price; and
3. Retail price.

As discussed above, the actual wholesale price is typically based on the rack price but can be above or below the rack price, as shown in Figure 48 below.

Figure 48 - Rack Price vs. Wholesale Price



In the terminology of the above figure, the refiner margin is the difference between, for example, the "Actual wholesale price for Customer B" and the price of crude; and the OIC retail margin is the difference between the retail price and the "Actual wholesale price for Customer B."

The evidence in this Inquiry and the analyses provided by experts deals with rack price as opposed to wholesale price. It is difficult to work with the actual wholesale price as, generally speaking, it differs from customer to customer and contract to contract and is treated confidentially. However, overall the evidence does not show any material difference, between the discounts (and in some cases premiums) to rack prices between BC and the rest of Canada. **Therefore we use the rack price as a reasonable proxy for the refining margin for the purpose of this analysis** and we use those terms interchangeably.

We further note that in the terminology of the OIC, the refiner margin in addition to the retail margin equals the wholesale margin in addition the retail margin, as that terminology is used by refiners, marketers and retailers.

As can be seen by the graph below, significant differences between BC and the rest of Canada in the wholesale price of gasoline began to emerge in 2015 and have been increasing since.

That said, it is important to note that very few, if any, customers actually pay the rack rate. Many customers actually receive discounts off the rack – as their wholesale base price and then possibly further discounts for volume. These contracts are negotiated confidentially and generally differ from customer to customer and supplier to supplier. The Panel agrees that the way discounts and premiums are determined is competitive.

However, the rack rate acts as an anchor for these discounts. As the rack rate increases the wholesale price increases, unless the discount increases at a greater rate. Although this was not examined in detail in the Inquiry, there is no evidence that the discounts are different in BC than in other parts of Canada. If, as the rack rate increases, the discounts increase at a greater rate, this would have the effect of reducing the refining margin, as that term is defined in the OIC, thereby reducing the profitability of the refiners. However, it would at the same time, all else equal, increase the retail margin.

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ORDER NUMBER
G-162-19

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

British Columbia Utilities Commission
An Inquiry into Gasoline and Diesel Prices in British Columbia

BEFORE:
D. M. Morton, Panel Chair
D. A. Cote, Commissioner
M. E. Doehler, Commissioner

on July 23, 2019

ORDER

WHEREAS:

A. On May 21, 2019, the Lieutenant Governor in Council, by Order in Council (OIC) No. 254, requested the British Columbia Utilities Commission (BCUC), pursuant to section 5(1) of *the Utilities Commission Act* (UCA), to conduct an inquiry respecting gasoline and diesel prices in British Columbia in accordance with the terms of reference set out in section 3 of the OIC (Inquiry);

B. By Order G-148-19, dated July 8, 2019, the BCUC granted advanced approval of confidential status to interveners that submit information that they identify as commercially or competitively sensitive. The BCUC will keep these documents confidential within the BCUC and only use them for purposes related to the Inquiry. The BCUC will also ensure the information cannot be discerned (e.g. by back-calculation), in the BCUC's final report or other published material;

C. By letter dated July 10, 2019, Shell Canada Limited (Shell) submitted a letter requesting the BCUC to adopt National Energy Board procedures when handling confidential information;

D. By letter dated July 11, 2019, the BCUC issued Exhibit A-9 in response to Shell's request and will implement specific procedural practices to address the treatment of commercially sensitive information. The BCUC states that other interveners may file their information in accordance with the guidelines described in the letter, however, there is no requirement to do so;

E. By letter dated July 12, 2019, Imperial Oil Limited (Imperial) expressed concerns about disclosing and answering any questions that may require disclosing commercially sensitive or competitive information. Imperial views that BCUC Order G-148-19 does not provide interveners with sufficient protection and assurances as to the treatment of the information;

F. Imperial requests that amendments be made to BCUC Order G-148-19 to include the following provisions:

   i. Only BCUC staff shall have access to the confidential information. Any external BCUC consultants accessing the information may do so only after executing confidentiality undertakings.

   ii. No copies (hard copy or electronic) shall be made of the confidential information, and it shall not be transmitted electronically.

   iii. All confidential information shall be destroyed by the BCUC by September 13, 2019; and

G. The BCUC considers that an order for Imperial and Shell is appropriate in response to the requests made by these two interveners.

NOW THEREFORE the BCUC orders as follows:

1. Advanced approval of confidential status is granted to information submitted by Imperial and Shell that they identify as commercially or competitively sensitive (Confidential Filings). They must ensure that Confidential Filings, or any portions thereof, are clearly marked confidential.

2. For the purpose of this order, confidential materials shall include (i) all Confidential Filings, (ii) any document created by the BCUC Panel, BCUC staff, or BCUC legal counsel that contains data from Confidential Filings in a manner that allows such data to be discerned, and (iii) all transcripts from *in camera* sessions (Confidential Materials).

3. The BCUC will keep Confidential Materials confidential within the BCUC and only use them for purposes related to the Inquiry.

4. Oral proceedings referring to Confidential Materials will be transcribed and conducted, *in camera*.

5. Access to the Confidential Materials shall be strictly limited to the BCUC Panel, BCUC staff and BCUC legal counsel who have a need to access such information for purposes related to the Inquiry. To the extent that external consultants, such as information technology professionals, may have access to Confidential Materials, they are bound by confidentiality undertakings to the BCUC.

6. No copies, hard copy or electronic, shall be made of the Confidential Materials, and they shall not be transmitted electronically, except that the BCUC shall retain one copy of any transcript from *in camera* sessions, as required under subsection 10(1) of the *Utilities Commission Act* (UCA) in a secure manner, with a clear label indicating its confidentiality.

7. Within thirty days of the BCUC submitting its final report, all Confidential Filings shall be destroyed by the BCUC, or returned to the parties that filed them, except that the BCUC shall retain a single hard copy of each of the Confidential Filings, as required under subsection 10(1) of the UCA, in a secure manner, with a clear label indicating their confidentiality.

8. The BCUC will also ensure the information contained in the Confidential Filings cannot be discerned (e.g. by back-calculation), in the BCUC's final report or other published material. Prior to publishing the final report of the Inquiry, the BCUC shall provide any party that has provided confidential information with a draft copy of the relevant portions of the report so that parties may be satisfied that information from the Confidential Filings is presented in a manner that cannot be discerned.

9. Should (i) any of the Confidential Materials be the subject of a request for disclosure under the *Freedom of Information and Protection of Privacy Act*, or (ii) proceedings be commenced in the Supreme Court of British Columbia in respect of the Confidential Materials, the BCUC shall, forthwith, provide specific notice to the affected party and general notice of a request of a proceeding, as the case may be, to all parties that filed Confidential Filings.

DATED at the City of Vancouver, in the Province of British Columbia, this 23rd day of July 2019.

BY ORDER

D. M. Morton
Commissioner

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ORDER NUMBER
G-165-19

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

British Columbia Utilities Commission
An Inquiry into Gasoline and Diesel Prices in British Columbia

BEFORE:
D. M. Morton, Panel Chair
D. A. Cote, Commissioner
M. E. Doehler, Commissioner

on July 25, 2019

ORDER

WHEREAS:

A. On May 21, 2019, the Lieutenant Governor in Council, by Order in Council (OIC) No. 254, requested the British Columbia Utilities Commission (BCUC), pursuant to section 5(1) of *the Utilities Commission Act* (UCA), to conduct an inquiry respecting gasoline and diesel prices in British Columbia in accordance with the terms of reference set out in section 3 of the OIC (Inquiry);

B. By Order G-148-19, dated July 8, 2019, the BCUC granted advanced approval of confidential status to interveners that submit information that they identify as commercially or competitively sensitive. The BCUC will keep these documents confidential within the BCUC and only use them for purposes related to the Inquiry. The BCUC will also ensure the information cannot be discerned (e.g. by back-calculation), in the BCUC's final report or other published material;

C. By letter dated July 11, 2019, the BCUC issued Exhibit A-9 in response to Shell Canada Limited's (Shell) request dated July 10, 2019 (Exhibit C10-3), to implement specific procedural practices to address the treatment of commercially sensitive information. The BCUC states that other interveners may file their information in accordance with the guidelines described in the letter, however, there is no requirement to do so;

D. By Order G-162-19 dated July 23, 2019, further to the requests by Imperial Oil Limited dated July 12, 2019 (Exhibit C8-4) and Shell regarding confidentiality, the BCUC ordered certain confidentiality provisions for the Inquiry as set out in that order;

E. The BCUC considers that Order G-162-19 should be amended to apply the confidentiality provisions to all interveners that submit confidential filings as part of the Inquiry.

NOW THEREFORE the BCUC orders as follows:

1. Advanced approval of confidential status is granted to information submitted by interveners that they identify as commercially or competitively sensitive (Confidential Filings). They must ensure that Confidential Filings, or any portions thereof, are clearly marked confidential.

2. For the purpose of this order, confidential materials shall include (i) all Confidential Filings, (ii) any document created by the BCUC Panel, BCUC staff, or BCUC legal counsel that contains data from Confidential Filings in a manner that allows such data to be discerned, and (iii) all transcripts from *in camera* sessions (Confidential Materials).

3. The BCUC will keep Confidential Materials confidential within the BCUC and only use them for purposes related to the Inquiry.

4. Oral proceedings referring to Confidential Materials will be transcribed and conducted, *in camera*.

5. Access to the Confidential Materials shall be strictly limited to the BCUC Panel, BCUC staff and BCUC legal counsel who have a need to access such information for purposes related to the Inquiry. To the extent that external consultants, such as information technology professionals, may have access to Confidential Materials, they are bound by confidentiality undertakings to the BCUC.

6. No copies, hard copy or electronic, shall be made of the Confidential Materials, and they shall not be transmitted electronically, except that the BCUC shall retain one copy of any transcript from *in camera* sessions, as required under subsection 10(1) of the *Utilities Commission Act* (UCA) in a secure manner, with a clear label indicating its confidentiality.

7. Within thirty days of the BCUC submitting its final report, all Confidential Filings shall be destroyed by the BCUC, or returned to the parties that filed them, except that the BCUC shall retain a single hard copy of each of the Confidential Filings, as required under subsection 10(1) of the UCA, in a secure manner, with a clear label indicating their confidentiality.

8. The BCUC will also ensure the information contained in the Confidential Filings cannot be discerned (e.g. by back-calculation), in the BCUC's final report or other published material. Prior to publishing the final report of the Inquiry, the BCUC shall provide any party that has provided confidential information with a draft copy of the relevant portions of the report so that parties may be satisfied that information from the Confidential Filings is presented in a manner that cannot be discerned.

9. Should (i) any of the Confidential Materials be the subject of a request for disclosure under the *Freedom of Information and Protection of Privacy Act*, or (ii) proceedings be commenced in the Supreme Court of British Columbia in respect of the Confidential Materials, the BCUC shall, forthwith, provide specific notice to the affected party and general notice of a request of a proceeding, as the case may be, to all parties that filed Confidential Filings.

DATED at the City of Vancouver, in the Province of British Columbia, this 25th day of July 2019.

BY ORDER

D. M. Morton
Commissioner

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

British Columbia Utilities Commission

Inquiry into Gasoline and Diesel Prices in British Columbia

EXHIBIT LIST

Exhibit No.	Description
COMMISSION DOCUMENTS	
A-1	Letter dated May 24, 2019 – Appointing the Panel for the review of the British Columbia Utilities Commission Inquiry into Gasoline and Diesel Prices in British Columbia
A-2	Letter dated May 24, 2019 – Order G-112-19 establishing a Regulatory Timetable and Survey Questionnaire
A-3	Letter dated May 28, 2019 – Clarification regarding the Regulatory Timetable
A-4	Letter June 4, 2019 – Consultant Report Terms of Reference
A-5	Letter dated July 8, 2019 – BCUC Order G-148-19 advanced approval of confidentiality
A-6	Letter dated July 9, 2019 – Oral Workshop Information
A-6-1	Letter dated July 12, 2019 – Updated schedule and dated correction to Oral Workshop
A-7	Letter dated July 10, 2019 – BCUC response to Parkland's letter dated July 9, 2019
A-8	Letter dated July 10, 2019 – Oral Workshop Questions
A-8-1	Letter dated July 12, 2019 – BCUC Corrections to Exhibit A-8
A-8-2	Letter dated July 16, 2019 – BCUC Correction to Exhibit A-8
A-8-3	Letter dated July 16, 2019 – BCUC Correction to Exhibit A-8
A-9	Letter dated July 11, 2019 – BCUC Response to Shell Exhibit C10-3

A-10	**CONFIDENTIAL** – Letter dated July 12, 2019 – BCUC Confidential Oral Workshop Questions to 7-Eleven
A-11	**CONFIDENTIAL**– Letter dated July 12, 2019 - BCUC Confidential Oral Workshop Questions to Super Save
A-12	Letter dated July 23, 2019 – Order G-161-19 amending the regulatory timetable
A-13	Letter dated July 23, 2019 – Order G-162-19 establishing further confidentiality provisions
A-14	Letter dated July 25, 2019 – Order G-165-19 Amending Confidentiality Provisions
A-15	Letter dated July 25, 2019 – Further Oral Workshop Panel Questions and Schedule
A-16	Letter dated July 26, 2019 – Panel Questions and Oral Workshop Invitation to Federated Co-Operatives Limited (FCL)
A-17	Letter dated July 26, 2019 – Panel Questions and Oral Workshop Invitation to Trans Mountain
A-18	Letter dated July 31, 2019 – Panel Question to Advanced Biofuels
A-19	Letter dated July 31, 2019 – Confidentiality of Transcripts
A-20	Letter dated August 1, 2019 – Cancellation of August 1, 2019 Oral Workshop session
A-21	Letter dated August 1, 2019 – Panel Questions to Dr. Kahwaty
A-22	Letter dated August 1, 2019 – Instructions on Final Submissions
A-23	**CONFIDENTIAL** – Letter dated August 1, 2019 – Panel Questions to Shell
A-24	Letter dated August 9, 2019 – Request for Intervener Submissions on TransMountain Letter of Comment
A-25	Letter dated August 12, 2019 – Response to Advanced Biofuels Objection to Imperial Oil's Final Submission
A-26	Letter dated August 23, 2019 – Advanced Biofuels Comments and Suncor Reply Comments to Exhibit A2-30
A-27	Letter dated August 29, 2019 – Information regarding the use of Confidential Information in BCUC's Final Report

COMMISSION STAFF DOCUMENTS

A2-1	Letter dated June 20, 2019 – BCUC staff filing Independent Consultant Report by the Deetken Group - Phase 1: Primer On BC's Market For Refined Petroleum Products – June 20, 2019
A2-1-1	Letter dated July 10, 2019 – BCUC staff filing Independent Consultant Report by the Deetken Group - Phase 2: Analysis of Factors Contributing to BC's Gasoline and Diesel Price Behaviour
A2-1-2	Letter dated July 17,2019 – BCUC staff filing Deetken Group Elise Lepine CV at Oral Workshop
A2-1-3	Letter dated July 18, 2019 – BCUC staff filing Deetken Group Update Presentation at Oral Workshop
A2-2	Letter dated June 20, 2019 – BCUC staff filing Independent Consultant Report by Navius Research Inc. – Jurisdictional Scan of Regulation and Oversight on Gasoline and Diesel Prices in Canada and North America – June 20, 2019
A2-3	Letter dated June 20, 2019 – BCUC staff filing Presentation by Kent Group – Introduction to the Downstream Petroleum Industry – June 17, 2019 and 2018 National Retail Petroleum Site Census – June 7, 2019
A2-4	Letter dated June 20, 2019 – BCUC staff filing National Energy Board (NEB) – Western Canada Crude Oil Supply – December 2018
A2-5	Letter dated June 20, 2019 – BCUC staff filing NEB – Canadian Refinery Overview – April 2018
A2-6	Letter dated June 20, 2019 – BCUC staff filing U.S. Energy Information Administration (EIA) – West Coast Transportation Fuel Markets – September 2015
A2-7	Letter dated June 20, 2019 – BCUC staff filing Scott Hempling, Attorney at Law – Utility Regulation: What Is It, Why We Have It, and How Does It Work? – May 28, 2019
A2-8	Letter dated June 20, 2019 – BCUC staff filing Project Overview - Vancouver Airport Fuel Facilities Corporation – Project Overview-Fuel Delivery Project – May 30, 2019
A2-9	Letter dated June 20, 2019 – BCUC staff filing Kinder Morgan Canada Limited - Vancouver Wharves Diesel Handling Facility Expansion Project – March 2018
A2-10	Letter dated June 20, 2019 – BCUC staff filing NEB – Trans Mountain Pipeline ULC Petroleum Tariff No. 105 Rules and Regulations Governing the Transportation of Petroleum – Issued August 31, 2018
A2-11	Letter dated June 20, 2019 – BCUC staff filing NEB – Trans Mountain Pipeline ULC – Petroleum Tariff No. 106: Tolls applying on Petroleum – Issued April 3, 2019

A2-12 Letter dated June 20, 2019 – BCUC staff filing Atlantic Institute for Market Studies (AIMS) – What's Still Missing From Your Wallet? - How Regulation Continues to Distort Gasoline Prices in Atlantic Canada – August 2017

A2-13 Letter dated June 20, 2019 – BCUC staff filing NEB – Reason for Decision – Chevron Canada Limited - Application for a priority destination for the Burnaby Refinery, pursuant to section 1.58 of the tariff of Trans Mountain Pipeline ULC – July 2013

A2-14 Letter dated June 24, 2019 – BCUC staff filing Competition Bureau of Canada - Factors that affect gas prices at the pumps – July 24, 2018

A2-15 Letter dated June 24, 2019 – BCUC staff filing Competition Bureau of Canada – A Guide to Retail Gasoline Pricing in Canada – issued May 17, 2019

A2-16 Letter dated June 24, 2019 – BCUC staff filing Competition Bureau of Canada – Government of Canada – Recent investigation into activities in the gasoline and petroleum sectors – February 14, 2018

A2-17 Letter dated June 25, 2019 – BCUC staff filing Natural Resources Canada – Why gasoline prices go up and down? – issued August 24, 2016

A2-18 Letter dated July 11, 2019 – BCUC staff filing Dr. Mark K. Jaccard – British Columbia Inquiry into Gasoline Pricing Final Report – issued September 30, 1996

A2-19 Letter dated July 26, 2019 – BCUC staff filing Petroleum and Renewable Fuels Supply Chain Megan Boutwell, David J. Hackett & Michael L Soares Stillwater Associates LLC February 2014

A2-20 Letter dated July 26, 2019 – BCUC staff filing Understanding Crude Oil and Product Markets Steven Levine, Gary Taylor, Daniela Arthur and Michael Tolleth, The Brattle Group

A2-21 Letter dated July 26, 2019 – BCUC staff filing The Competition Bureau - Abuse of Dominance Enforcement Guidelines, March 7, 2019

A2-22 Letter dated July 26, 2019 – BCUC staff filing The Competition Bureau - Price Maintenance (Section 76 of the Competition Act), September 15, 2014

A2-23 Letter dated July 26, 2019 – BCUC staff filing The Competition Bureau - Competitor Collaboration Guidelines, December 23, 2009

A2-24 Letter dated July 26, 2019 – BCUC staff filing Director of Investigation and Research v. Imperial Oil Limited, Case decided on: January 26, 1990

A2-25 Letter dated July 26, 2019 - BCUC staff filing Gasoline Empirical Analysis: Update of Four Elements of the January 2001 Conference Board study: "The Final Fifteen Feet of Hose: The Canadian Gasoline Industry in the Year 2000" March 2005

A2-26	Letter dated July 26, 2019 - BCUC staff filing The Impact of Sales-Below-Cost Laws on the U.S. Retail Gasoline Market, February 1999
A2-27	Letter dated July 26, 2019 - BCUC staff filing The Effects of Recent Volatility in International Petroleum Markets on Canadian Wholesale and Retail Gasoline Prices A report prepared for the Competition Bureau by Frank Roseman March 2005
A2-28	Letter dated July 29,2019 – BCUC staff filing Deetken Group Undertaking 1
A2-29	Letter dated August 14, 2019 – BCUC staff filing Oil Price Information Service Staff Analysis
A2-29-1	Letter dated August 15, 2019 – Correction to Exhibit A2-29
A2-30	Letter dated August 16, 2019 – BCUC staff filing Oil Price Information Service Data BCUC Staff Analysis

INTERVENER DOCUMENTS

C1-1	**ALLAN, ROBYN AND ELIESEN, MARC (ALLAN AND ELIESEN)** Letter dated May 26, 2019 – Request to Intervene by Robyn Allan and Marc Eliesen
C1-2	Letter dated June 27, 2019 – Allan and Eliesen Submitting Report – The Case for Regulatory Oversight to Address Market Failure
C1-3	Letter dated July 15, 2019 – Allan and Eliesen Submitting need for correction to Oral Workshop Question 3B
C1-4	Letter dated July 18, 2019 – Allan and Eliesen Submitting Presentation at Oral Workshop
C1-4-1	Letter dated July 21, 2019 – Allan and Eliesen Submitting Trans Mountain Capacity Issues discussed at Oral Workshop
C1-4-2	Letter dated July 21, 2019 – Allan and Eliesen Submitting Trans Mountain Methodology for Calculation of 2010 Tolls discussed at Oral Workshop
C1-5	Letter dated July 22, 2019 – Allan and Eliesen Submitting Port of Vancouver International Exports and Imports
C1-6	Letter dated July 23, 2019 – Allan and Eliesen Submitting as requested Complex Monopoly Model
C1-7	Letter dated August 8, 2019 – Allan and Eliesen Submission regarding Trans Mountain
C2-1	**SUNCOR ENERGY (SUNCOR)** Letter dated June 10, 2019 – Request to Intervene by James McLean

C2-2	Letter dated June 27, 2019 – Suncor Submitting responses to BCUC Survey Questionnaire and comments on BCUC Consultant Report
C2-2-1	Letter dated July 15, 2019 – Suncor Submitting correction to response to BCUC Survey Questionnaire
C2-3	Letter dated July 12, 2019 – Suncor Submitting participation in Oral Workshop
C2-4	**CONFIDENTIAL** – Letter dated July 15, 2019 - Suncor Confidential Evidence Submission
C2-5	Letter dated July 18, 2019 – Suncor Submitting Presentation at Oral Workshop
C2-6	**CONFIDENTIAL** - Letter dated July 18, 2019 – Suncor Submitting Confidential Presentation at Oral Workshop
C2-7	**CONFIDENTIAL** - Letter dated July 26, 2019 – Suncor Submitting Confidential Response to Undertaking
C2-8	Letter dated July 30, 2019 – Suncor Submitting Presentation at Oral Workshop
C2-9	**CONFIDENTIAL** - Letter dated July 30, 2019 – Suncor Submitting Confidential Information at Oral Workshop
C2-10	**Confidential submission now made Public per C2-11** - Letter dated August 6, 2019 – Suncor Submitting Additional Confidential Information regarding BCUC Order G-165-19
C2-11	Letter dated August 8, 2019 – Suncor Submission regarding revised Confidential Request
C2-12	Letter dated August 23, 2019 – Suncor comments on Advanced Biofuels Exhibit C6-7
C3-1	**SUPER SAVE GROUP (SUPER SAVE GROUP)** Letter dated June 10, 2019 – Request to Intervene by Jim Allen
C3-2	Letter dated June 27, 2019 – Super Save Group Submitting Intervener Evidence (cover letter)
C3-3	**CONFIDENTIAL** – Letter dated June 27, 2019 – Super Save Group Submitting Confidential document
C3-4	**CONFIDENTIAL** - Letter dated July 19, 2019 - Super Save Group Confidential Submissions at Oral Workshop
C3-5	**CONFIDENTIAL** - Letter dated July 19, 2019 - Super Save Group Confidential Submissions at Oral Workshop
C3-6	**CONFIDENTIAL** - Letter dated July 19, 2019 - Super Save Group Confidential Submissions at Oral Workshop

C3-7	Letter dated June 24, 2019 - Super Save Group Submission 1 - Redacted Questionnaire Responses
C3-8	Letter dated July 29, 2019 - Super Save Group Submission 2 - Redacted Questionnaire Responses
C3-9	Letter dated July 29, 2019 - Super Save Group Submission 3 - Redacted Questionnaire Responses
C3-10	**CONFIDENTIAL** - Letter dated August 8, 2019 - Super Save Group Confidential Submission on Transcript Corrections
C4-1	**NATIONAL ENERGY BOARD (NEB)** Letter dated June 11, 2019 – Request to Intervene by Colette Craig
C4-2	Letter dated June 27, 2019 – NEB Submitting comments on BCUC Consultant Report by Navius Research Inc.
C4-3	Letter dated June 27, 2019 – NEB Submitting Direct Evidence: The Regulation of Pipeline Tolls and Tariffs
C4-4	Letter dated July 15, 2019 – NEB Submitting participation in Oral Workshop
C4-5	Letter dated July 19, 2019 – NEB Submission at Oral Workshop
C4-6	Letter dated July 19, 2019 – NEB Submission at Oral Workshop
C4-7	Letter dated August 1, 2019 – NEB Submitting written responses to Oral Workshop Questions
C5-1	**PARKLAND FUEL CORPORATION (PARKLAND)** Letter dated June 12, 2019 – Request to Intervene by Christy Elliott
C5-2	Letter dated June 27, 2019 – Parkland Submitting Evidence
C5-3	Letter dated July 5, 2019 – Parkland Submitting request BCUC response regarding Confidential Information and Procedural Fairness
C5-4	Letter dated July 9, 2019 – Parkland Submitting response to BCUC Exhibit A-5 regarding Confidential Information and Procedural Fairness
C5-5	Letter dated July 15, 2019 – Parkland Submitting participation at Oral Workshop
C5-6	Letter dated July 16, 2019 – Parkland Submitting advance responses to Oral Workshop Questions
C5-6-1	**CONFIDENTIAL** – Letter dated July 16, 2019 Parkland Submitting Confidential responses to Oral Workshop Questions

C5-7	Letter dated July 17, 2019 – Parkland Submitting National Post article at Oral Workshop
C5-8	Letter dated July 17, 2019 – Parkland Submitting Presentation at Oral Workshop
C5-9	Letter dated July 17, 2019 – Parkland Submitting Dr. Kahwaty Slides at Oral Workshop
C5-10	Letter dated July 19, 2019 – Parkland Submitting Minister's statement on January labour force statistics at Oral Workshop
C5-11	Letter dated July 19, 2019 – Parkland Submitting Hawaii Research and Economic Analysis Energy Industry Information Reporting Program at Oral Workshop
C5-12	Letter dated July 19, 2019 – Parkland Submitting 2010 EIIRP Reporting Schedule "A" at Oral Workshop
C5-13	Letter dated July 19, 2019 – Parkland Submitting EIIRP Instruction Forms at Oral Workshop
C5-14	Letter dated July 19, 2019 – Parkland Submitting California Energy Commission Report at Oral Workshop
C5-15	Letter dated July 19, 2019 – Parkland Submitting Washington State Quarterly Gasoline Report at Oral Workshop
C5-16	Letter dated July 19, 2019 – Parkland Submitting University of Washington 2007-2008 Gas Price Study at Oral Workshop
C5-17	**CONFIDENTIAL** – Letter dated July 26, 2019 Parkland Submitting Confidential responses to Undertaking 1
C5-18	Letter dated July 26, 2019 Parkland Submitting responses to Undertaking 2
C5-19	Letter dated July 26, 2019 Parkland Submitting responses to Undertaking 3
C5-20	**CONFIDENTIAL** – Letter dated July 26, 2019 Parkland Submitting Confidential responses to Undertaking 4
C5-21	Letter dated July 26, 2019 Parkland Submitting responses to Undertaking 5
C5-22	**CONFIDENTIAL** – Letter dated July 26, 2019 Parkland Submitting Confidential responses to Undertaking 6
C5-23	Letter dated July 26, 2019 Parkland Submitting responses to Undertaking 7
C5-24	**CONFIDENTIAL** – Letter dated July 26, 2019 Parkland Submitting Confidential responses to Undertaking 8
C5-25	Letter dated July 26, 2019 Parkland Submitting responses to Undertaking 9

C5-26	**CONFIDENTIAL** – Letter dated August 8, 2019 Parkland Submitting further Confidential responses to Further Panel Questions
C5-27	**CONFIDENTIAL** – Letter dated August 8, 2019 Parkland Submitting Confidential Transcript corrections
C5-28	Letter dated August 8, 2019 - Parkland witness Dr. Kahwaty Submitting Responses to Panel Questions
C6-1	**ADVANCED BIOFUELS CANADA (ADVANCED BIOFUELS)** Letter dated June 12, 2019 – Request to Intervene by Ian Thomson
C6-2	Letter dated June 27, 2019 – Advanced Biofuels Submitting Intervener Evidence
C6-3	Letter dated July 10, 2019 – Advanced Biofuels Submitting advance materials for Oral Workshop
C6-4	Letter dated July 18, 2019 – Advanced Biofuels Submitting Presentation at Oral Workshop
C6-5	Letter dated August 6, 2019 – Advanced Biofuels Submitting further information to Panel Question at July 31, 2019 Oral Workshop
C6-6	**CONFIDENTIAL** – Letter dated August 7, 2019 Advanced Biofuels Submitting Confidential material
C6-7	Letter dated August 20, 2019 – Advanced Biofuels Submitting Comments on Oil Price Information Service Data BCUC Staff Analysis – Exhibit A2-30
C7-1	**HUSKY ENERGY INC. (HUSKY ENERGY)** Letter dated June 13, 2019 – Request to Intervene by Krista Friesen
C7-2	Letter dated June 27, 2019 – Husky Energy Submitting responses to BCUC Survey Questionnaire
C7-3	**CONFIDENTIAL** - Letter dated July 15, 2019 - Husky Energy Submitting Confidential Further Questionnaire Responses
C7-4	Letter dated July 16, 2019 – Husky Submitting details of participation in Oral Worskshop
C7-5	Letter dated July 24, 2019 – Husky Request for clarification of confidential scope in BCUC Order G-148-19
C7-6	Letter dated July 26, 2019 – Husky Comment regarding Responses to Oral Workshop Questions
C7-7	Letter dated August 1, 2019 – Husky responses to additional Panel Questions
C7-7-1	**CONFIDENTIAL** - Letter dated August 1, 2019 – Husky confidential responses to additional Panel Questions

C8-1	**IMPERIAL OIL LIMITED (IMPERIAL OIL)** Letter dated June 13, 2019 – Request to Intervene by Brian Scammell
C8-2	Letter dated June 27, 2019 – Imperial Oil Submitting responses to BCUC Survey Questionnaire
C8-3	Letter dated June 27, 2019 – Imperial Oil Submitting comments on BCUC Consultant Report
C8-4	Letter dated July 12, 2019 – Imperial Oil Submission regarding Oral Workshop
C8-5	**CONFIDENTIAL -** Letter dated August 1, 2019 – Imperial Oil confidential responses to Questionnaire
C8-6	**CONFIDENTIAL -** Letter dated August 8, 2019 – Imperial Oil response to Further Panel Questions dated July 25, 2019
C8-6-1	Letter dated August 8, 2019 – Imperial Oil Public response to Further Panel Questions dated July 25, 2019
C8-7	**CONFIDENTIAL -** Letter dated August 8, 2019 – Imperial Oil response to question 10 of the Questionnaire dated May 24, 2019
C9-1	**7-ELEVEN CANADA, INC. (7-ELEVEN)** Letter dated June 13, 2019 – Request to Intervene by Kristen Cook
C9-2	Letter dated June 27, 2019 – 7-Eleven Submitting Response to BCUC Survey Questionnaire – public version
C9-2-1	**CONFIDENTIAL -** Letter dated June 27, 2019 – 7-Eleven Submitting Response to BCUC Survey Questionnaire
C9-3	Letter dated July 18, 2019 – 7-Eleven Submitting Vancouver Sun article on Industrial Land presented at Oral Workshop
C9-4	Letter dated July 18, 2019 – 7-Eleven Submitting Vancouver Sun article on Commercial Land presented at Oral Workshop
C9-5	Letter dated July 18, 2019 – 7-Eleven Submitting CBRE Marketview article presented at Oral Workshop
C9-6	**CONFIDENTIAL** – Letter dated August 1, 2019 - 7 Eleven Confidential Submission-at-July 30, 2019 Oral-Workshop
C9-7	Letter dated August 8, 2019 - 7 Eleven Submitting Response on Confidentiality of Transcripts
C10-1	**SHELL CANADA LIMITED (SHELL)** Letter dated June 24, 2019 – Request to Intervene by Dan Kolenick
C10-2	Letter dated June 27, 2019 – Shell Submitting responses to BCUC Survey Questionnaire

C10-3	Letter dated July 10, 2019 – Shell Submitting response regarding Oral Workshop
C10-4	Letter dated July 17, 2019 – Shell Submitting biographies for witness panel
C10-5	Letter dated July 15, 2019 – Shell Submitting Responses to Confidential Questionnaire
C10-6	**CONFIDENTIAL** – Letter dated July 24, 2019 – Shell Submitting response to Confidential Undertaking
C10-7	**CONFIDENTIAL** – Letter dated July 31, 2019 – Shell Submitting response to further workshop Panel Questions
C10-8	**CONFIDENTIAL** – Letter dated August 7, 2019 – Shell Submitting Confidential material
C11-1	**COSTCO WHOLESALE LTD. (COSTCO)** Letter dated July 2, 2019 – Request to Intervene by Stuart Shamis
C11-2	Letter dated July 12, 2019 – Costco Submitting Response to BCUC Survey Questionnaire – public version
C11-2-1	**CONFIDENTIAL** - Letter dated July 19, 2019 - Costco Confidential Submission to BCUC Survey Questionnaire

INTERESTED PARTY DOCUMENTS

D-1	**BOSSERT, BRAD** – Submission dated June 5, 2019 request for Interested Party Status on behalf of Bulloch Technologies
D-2	**HUGHES, DARREN** – Submission dated June 11, 2019 request for Interested Party Status on behalf of Hughes Petroleum
D-3	**CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS (CAPP)** – Submission dated June 13, 2019 request for Interested Party Status by Beth Lau
D-4	**BUXTON, DONNA -** Submission dated July 2, 2019 request for Interested Party Status
D-5	**DUFF, MICHAEL -** Submission dated July 5, 2019 request for Interested Party Status
D-5-1	Letter dated July 5, 2019 – Duff, M. Submitting Comments
D-6	**TANG, MARCO -** Submission dated July 15, 2019 request for Interested Party Status
D-7	**HUNDAL, PAUL -** Submission dated July 18, 2019 request for Interested Party Status
D-7-1	Letter dated August 8, 2019 – Hundal, P. submitting Comments
D-8	**CROSS, GEOFF –** Submission dated July 31, 2019 request for Interested Party Status on behalf of Translink

D-8-1 Letter dated August 8, 2019 – Cross, G. submitting Comments on behalf of Translink

D-9 **SEARL, DAVID -** Submission dated August 6, 2019 request for Interested Party Status

D-10 **HUNT, WENDY -** Submission dated August 7, 2019 request for Interested Party Status on behalf of District of New Hazelton

LETTERS OF COMMENT

E-1 Bynoe, D. – Letter of Comment dated May 24, 2019

E-2 Diebel, R. – Letter of Comment dated May 24, 2019

E-3 Dockter, M. – Letter of Comment dated May 24, 2019

E-4 Doyle, A. – Letter of Comment dated May 24, 2019

E-5 Euerby, A. – Letter of Comment dated May 24, 2019

E-6 Perez, J. – Letter of Comment dated May 24, 2019

E-7 Semenec, M. – Letter of Comment dated May 24, 2019

E-8 Paller, A. – Letter of Comment dated May 24, 2019

E-9 Bouvette, B. – Letter of Comment dated May 25, 2019

E-10 Dutour, S. – Letter of Comment dated May 25, 2019

E-11 Edwards, J. – Letter of Comment dated May 25, 2019

E-12 Fisher, C. – Letter of Comment dated May 25, 2019

E-13 Francis, A. – Letter of Comment dated May 25, 2019

E-14 Gray, J. – Letter of Comment dated May 25, 2019

E-15 Gray, D. – Letter of Comment dated May 25, 2019

E-16 Hrelia, M. – Letter of Comment dated May 25, 2019

E-17 Lapusniak, T. – Letter of Comment dated May 25, 2019

E-18 Postle, P. – Letter of Comment dated May 25, 2019

E-18-1 Postle, P. – Letter of Comment dated July 4, 2019

E-19 MacAulay, M. – Letter of Comment dated May 25, 2019

E-20 Smith, L. – Letter of Comment dated May 25, 2019

E-21 Stein, G. – Letter of Comment dated May 25, 2019

E-22 Tate, J. – Letter of Comment dated May 25, 2019

E-23 LaPointe, R. – Letter of Comment dated May 26, 2019

E-24 Marshall, R. – Letter of Comment dated May 26, 2019

E-25 Strube, C. – Letter of Comment dated May 26, 2019

E-26 Albert, L. – Letter of Comment dated May 28, 2019

E-27 Hunter, F. – Letter of Comment dated May 30, 2019

E-28 Antonson, B. – Letter of Comment dated June 1, 2019

E-29 Sunshine Coast Labour Council – Letter of Comment dated June 5, 2019

E-30 Klee, M. – Letter of Comment dated June 7, 2019

E-31 Galasso, D. – Letter of Comment dated June 10, 2019

E-32 Mann, K. – Letter of Comment dated July 2, 2019

E-33 Nikkel, R. – Letter of Comment dated July 2, 2019

E-34 Ulmer, J. – Letter of Comment dated July 1, 2019

E-35 Windsor, D. – Letter of Comment dated July 1, 2019

E-36 Wilkinson, M. – Letter of Comment dated July 3, 2019

E-37 Whalen, B. – Letter of Comment dated July 3, 2019

E-38 Grindler, J. – Letter of Comment dated July 3, 2019

E-39 Saunders, R. – Letter of Comment dated July 4, 2019

E-40 Clay, I. – Letter of Comment dated July 4, 2019

E-41 Evans, E. – Letter of Comment dated July 4, 2019

E-42 CIPMA-Canadian Fuels Association – Letter of Comment dated July 8, 2019 – Includes 3rd Party Report: Overview BC Fuels Market

E-43 Lane, S. – Letter of Comment dated July 5, 2019

E-44 Brown, B. – Letter of Comment dated July 8, 2019

E-45 Robertson, K. – Letter of Comment dated July 8, 2019

E-46 Poy, L. – Letter of Comment dated July 8, 2019

E-47 Wilkinson, A. – Letter of Comment dated May 10, 2019 on behalf of the BC Liberal Official Opposition

E-48 Hogan, M. - Letter of Comment dated July 14, 2019

E-49 Suzuki, T. - Letter of Comment dated July 15, 2019

E-50 Wilks, L. – Letter of Comment dated July 15, 2019

E-51 Toshio – Letter of Comment dated July 16, 2019

E-52 Janyk, B. - Letter of Comment dated July 17, 2019

E-53 Savitski, C. - Letter of Comment dated July 18, 2019

E-54 Appleton, R. - Letter of Comment dated July 18, 2019

E-55 Ramus, S. - Letter of Comment dated July 18, 2019

E-56 Osborne, N. - Letter of Comment dated July 18, 2019

E-57 O'Hearn, J. - Letter of Comment dated July 18, 2019

E-58 Gandevia, D. – Letter of Comment dated July 18, 2019

E-59 Moran, A. – Letter of Comment dated July 19, 2019

E-60 Barber, R. – Letter of Comment dated July 10, 2019

E-61 Toth, S. – Letter of Comment dated July 20, 2019

E-62 Wilson, A.F. – Letter of Comment dated July 17, 2019

E-63 Jansson, M. – Letter of Comment dated August 6, 2019

E-64 Value Chain Solutions – Letter of Comment dated July 26, 2019

E-65 Wind, B. - Letter of Comment dated August 5, 2019

E-66 Federated Co-operatives Limited (FCL) - Letter of Comment dated August 7, 2019

E-67 Wong, A. - Letter of Comment dated August 7, 2019

E-68 Trans Mountain Pipeline - Letter of Comment dated August 7, 2019

E-69 Brayshaw, W. – Letter of Comment dated August 8, 2019

E-70 Cooper, P. – Letter of Comment dated August 8, 2019