

BC Utilities Commission Inquiry into Gasoline and Diesel Prices in British Columbia

Comments on BCUC Final Report (dated August 30, 2019)

Advanced Biofuels Canada

September 24, 2019

Advanced Biofuels Canada appreciates the opportunity to provide commentary on the BCUC Final Report ('Report') of August 30, 2019.

We include here comments on the Report, with additional evidence to support these comments.

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Executive Summary

Advanced Biofuels Canada believes that the findings of the report accurately assess the state of the BC fuels market – particularly that the supply and distribution of refined product in BC is an oligopoly, and that regulatory intervention may be appropriate if benefits outweigh costs. We note that the Panel’s findings are consistent with other assessments¹ of the competitiveness of the BC petroleum fuels sector.

We agree with the main findings of the report:

- a) The retail market is not subject to collusion or cartel behaviour amongst participants but is not functioning optimally
- b) The wholesale market is an oligopoly (and a natural monopoly)
 - o The supply of refined products to BC is 100% controlled by a small number of firms (four)
 - o The distribution (at wholesale terminals) of that supply is also 100% controlled by a small number of companies (five)
- c) Direct price control by refiner-marketers that is ‘significantly higher than the average in Canada’ undermines retail market competitiveness
- d) Moreover, when combined with the power of refiners to dictate retailers’ fuel purchase costs at 75%-90% of BC retail stations that are tied by brand, ‘this relationship increases effective market control.’
- e) Significant multiple barriers of entry for new wholesale suppliers results in a low likelihood of new supply establishment, which ‘lends credence to the view that incumbent suppliers have market power.’
- f) Wholesale terminal control by 5 firms (an oligopoly) is a key factor in the rise of wholesale prices.
- g) Even if additional wholesale infrastructure is developed – or new refinery built in BC – exercise of market power by incumbents and other factors will not improve competitiveness (or lower prices)
- h) Consideration should be given to making wholesale infrastructure open to additional participants to enter the market; other measures would be needed to ensure that new entrants are able to compete

Recommendations Summary

Advanced Biofuels Canada recommends the following areas where the benefits of regulatory intervention in the BC fuels market are likely to outweigh the costs of regulation.

1. An expert working group, representative of the BC fuels sector, should inform a more detailed set of recommendations to BCUC and to the Minister of Jobs, Trade and Technology.
2. Increase market transparency – market share, prices, adjacent jurisdiction comparatives

¹ <https://www.naviusresearch.com/publications/refining-margins-british-columbia/>

3. Incent competition at the wholesale level by addressing anti-competitive restrictive terms in retailer supply agreements.
4. Address the negative impacts associated with tightly-held control of wholesale terminals by requiring operators to allow independent (non-refiner) wholesalers and retailers to use these terminals on a cost of service basis
5. Where local concentration of branded retail stations is high, require Oil Companies to reduce their direct ownership of stations, or reduce the number of stations with whom they have branded supply agreements.

Biofuels use in BC is relevant to fuel prices

Advanced Biofuels Canada ('Advanced Biofuel') has participated in this inquiry because

- biofuels play an important role in BC fuel supply, and biofuels share will continue to grow
- biofuels take market share from fossil fuels, and can bring about a naturally higher level of price competition for the remaining share
- biofuels' wholesale costs can be lower than fossil fuels'
- exercise of oligopoly market power by Oil Companies significantly restricts consumer access to biofuel

Biofuel content in the proposed federal Clean Fuels Regulation, and in the BC RLCFRR, is projected to be as high as 15% in the gasoline pool by 2030. That level of non-fossil content can have a material effect on market dynamics, and competition. Ensuring that the fuels market does not unduly deny access to biofuels should be an objective in any regulatory intervention in the BC fuels market.

'Unexplained difference' finding needs clarification

The Report's findings have been described in the media and by commentators as inconclusive with respect to the non-attributed 13 cents/L difference between the PNW wholesale gasoline price and Vancouver price.

The Report explored a range of criteria for establishing monopoly, and a range of factors that support exercise of market power but did not link the two in a manner that the data and evidence suggest is warranted.

The executive summary of the Final Report ('Report') stated that, "The Panel finds that the prices in the Metro Vancouver area are higher than would be expected under more competitive conditions. The higher price differential cannot be explained by economic theory or justified by known factors in the market."

The body of the report stated that, "...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."

The Report stated that, ‘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.’ It seems logical to reason that in the absence of evidence that Oil Companies do not act like a monopoly, they would act like a monopoly. The ‘unexplained difference’ is a logical expression of exercise of monopoly power.

We believe that the Report showed that in an oligopolistic market with significant barriers to entry, a rigorous bottom-up comparative analysis that finds a price differential is, in and of itself, evidence of market power.

We perceive that users of the report (media, public) are errantly interpreting the absence of a finding of explicit collusion or cartel behaviour to be a finding that Oil Companies are not engaged in uncompetitive behaviour. The ‘smoking gun’ evidence of exercise of market power is the price difference between a highly concentrated market (i.e. BC) and an adjoining market, all other factors being accounted for.

We recommend that the commission provide additional clarity regarding interpretation of the implications of the ‘unexplained difference.’

The term ‘independent’ inappropriately used

Deetken (Exhibit A2-28) assessed almost 90% of BC retail stations to sell branded fuel, while Advanced Biofuels used a different approach to assess ~75% of stations to be operated under a brand.

Intervenors described stations that do not have the pump price set by the Oil Company as ‘independent’ when in fact stations that operate under a refiner brand have very little control over the price they offer consumers. Oil Companies have established a narrative that the sale of physical retail assets to another entity makes that entity ‘independent’. A second narrative associated with this change in ownership is that retailers, nor Oil Companies, are solely responsible for establishing retail prices. This is misleading because the Oil Company has retained control over sales volumes through those stations, and also sets the price of fuel supplied to those stations, which is overwhelmingly the largest component of ex-tax fuel pump price and also beyond the branded retailer’s control.

The Report pointed out that ‘independent’ stations have a close relationship with the Oil Companies that control the brand:

“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.”

We recommend that the Panel employ an alternative term to describe these brand-tied stations as the term ‘independent’ can easily mislead Report users.

Regulatory costs are overstated

The Report errs in assigning added cost to BC gasoline as result of a federal regulation, and its use of the upper bound for the BC low carbon fuel standard is not supported by the evidence provided (in fact, its use is cautioned against in the Deetken report, Exhibit A2-1-1.)

The sections that follow relate to the federal standard, the BC standard, and ethanol octane value. The cumulative impact of these is that

- total regulatory impacts did not add 4.5 cents/L to the cost of gasoline as tallied on p.78;
- ethanol content in BC gasoline, per the Navius in Canada 2019 study², reduced Oil Company gasoline costs by 5.7 cents/L

Federal Renewable Fuel Regulation has zero cost in BC

The Report errs in assigning 0.50 cents per litre cost to the federal Renewable Fuel Regulation.

The explanation for this error is simple; the provincial standard (5% in gasoline) is identical to the federal standard (5%), and BC compliance satisfies the federal standard. In fact, ethanol inclusion in gasoline from all provincial standards combined exceeds the total federal standard by a considerable margin. There is no additional cost for federal compliance, and assigning any cost to it that is above and beyond BC compliance is a double-counting error.

The 0.50 cents per litre cited on p. 78 of the Report should be removed from the calculation of ‘unexplained difference.’

BC Renewable and Low Carbon Fuel Requirements Regulation costs overstated

The 4 cents per litre the Report assigns to BC RLCFRR regulatory impacts is overstated, for three reasons:

1. The Panel used the ‘absolute upper bound of the cost’ estimated by Deetken
2. Deetken had incomplete fuel cost data (e.g. rail rates) in their regulatory cost estimates
3. Deetken likely did not adjust for ethanol content in calculating gasoline blendstock cost

Advanced Biofuels provides evidence here that BC low carbon regulatory cost impact in BC gasoline was considerably lower than the low-end cost in the Deetken estimated range.

The Deetken Phase 2 report section on BC regulatory costs concluded that, “This report estimates the maximum impact of the regulation, but **the actual impacts are likely significantly lower** and is therefore depicted as a range from 0 to the maximum impact.” [emphasis added]

- The Panel did not provide a rationale for use of the ‘absolute upper bound of the cost’ even in presence of multiple cautions in the Deetken report that actual costs were likely to be lower.

² <https://www.naviusresearch.com/publications/2019-biofuels-in-canada/>

Deetken Phase 2 (p. 74) recommended that it would be ‘useful to establish a more “likely” regulatory impact.’

- The Panel stated on p.78 of the Report that Deetken’s estimates were found to be reasonable, but we do not believe that Deetken’s evidence would support the use of the ‘upper absolute end’ of cost to be reasonable.

Specific data in the Deetken Phase 2 report support a lower regulatory cost than 4 cents/L.

1. Deetken stated in the cost estimation methodology that the ‘maximum impact of the regulation assumes all carbon reductions come exclusively from the purchase of compliance units at the maximum compliance cost.’ Deetken explicitly cautioned that ‘most compliance can be achieved more cost effectively than purchasing compliance credits...’ and that maximum 4 cents/L impact ‘would be incurred if fuel supplied had no lower cost abatement options and only purchased the maximum cost compliance costs.’
 - a) However, the data are very clear that lower cost abatement options (e.g. ethanol) have been extensively used in BC and that the ‘maximum cost’ criterion – 100% use of compliance credits – was not close to being satisfied.
 - BC Energy Mines and Petroleum Resources (EMPR) reports³ that in 2017, use of purchased credits contributed only 13% toward compliance (10.5% in 2016) for the combined gasoline and diesel pools.
 - In the gasoline pool, these data show that use of ethanol provided >90% of gasoline-pool compliance credits in 2017.
 - b) Navius Research *Biofuels in Canada 2019*⁴ is the most detailed (open source) assessment of biofuels’ cost in Canada. For 2017, Navius calculated the RLCFRR wholesale price *discount* to wholesale gasoline to be 0.8 cents/L.
 - This is below the low end of the Deetken RLCFRR estimate
 - This estimate does not include the octane value in ethanol (see following section), which lowers the cost further (to a 5.7 cents/L savings to Oil Companies)
2. Deetken found that, the ‘requirement for a 5% ethanol blend with gasoline is estimated to have reduced the wholesale price of gasoline by ~1 cent /L since 2018.’ (p. 56, Phase 2)
 - All gasoline in southern BC contains 10% ethanol, and as such, this would have resulted in a 2 cents/L reduction in the cost to refiners for acquired ethanol
3. We see no indication that Deetken’s methodology backed ethanol out of the posted wholesale regular unleaded gasoline (87 octane) rack prices, to adjust for the moderating impact in 2018 of ethanol content. Advanced Biofuel’s calculation shows that backing out the cost of less expensive ethanol from the pre-blended gasoline blendstock (or ‘BOB’) increases the price differential (discount) between E10 (regular gasoline) and BOB by approximately 3% in 2018.

³ https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/transportation/renewable-low-carbon-fuels/rlcf007_-_2017_summary_2010-17v2.pdf

⁴ <https://www.naviusresearch.com/publications/2019-biofuels-in-canada/>

4. The Deetken estimate for the statement (p.56) rail costs was very high, which will significantly overstate the BC regulatory cost was based on assumptions re: ethanol costs landed in Vancouver.
 - Advanced Biofuels has compared the database values for Midwest ethanol for 2015-2019 and finds the prices to not be materially different from those in a subscription database
 - Transportation costs used by Deetken, however, exceed those calculated by Navius by a wide margin. Deetken Chart 4.4.5 in Phase 2 report (p. 56) used a rail transport cost of 0.2 cents/L per km to 0.6 cents/L per km (using a 2011 document as reference). This contrasts with a Chicago-Vancouver rail rate of 13.2 cents/L in the Navius report, and Advanced Biofuels internal database calculated value of 10.4 cents/L.
 - The vast majority of ethanol arrives in BC by rail, and if the primary terminal cannot receive ethanol directly, the ethanol will be transloaded (tankcar-truck) for delivery to the primary terminal.

Ethanol savings vs gasoline understated - octane value omitted

Deetken's estimates of ethanol costs (and hence RLCFRR costs) did not credit ethanol for lowering gasoline final delivered costs. as a critical fuel additive that reduces refiners' costs of producing gasoline. Were ethanol not used in all of the gasoline sold in southern BC, Navius Research⁵ calculates that gasoline could cost up to 5.7 cents/L more than it did in 2018.

Regular unleaded gasoline ('RUL') sold in Canada is required to be 87 octane before it can be sold to consumers. Octane is a fuel component that provides critical 'anti-knock' fuel functionality and engine longevity. Most refiners produce gasoline blendstock ('unfinished gasoline') of 84 or 85 octane index, then add an 'oxygenate' to produce a finished fuel suitable for sale.

Oxygenates can be added in the refining process, but the lowest-cost oxygenate available to refiners is ethanol. As a result, ethanol provides the oxygenate in almost 75% of global gasoline⁶. The use of ethanol allows refiners to produce lower-cost sub-octane gasoline and then blend in 10% ethanol at primary terminals to provide a retail-ready regular gasoline.

The value of ethanol is widely recognized. The CEOs of Valero Energy, Marathon Petroleum, and Flint Hills Resources said in an August 28, 2019 statement⁷ that, "Corn ethanol is a mature product and a critical low-cost source of octane for gasoline that our economy relies on."

Navius Research and other researchers⁸ and economists calculate ethanol's contribution to lower-cost gasoline, and assign that value to ethanol in calculating the all-in cost to refiners of acquiring ethanol.

Navius calculates gasoline production cost savings attributable to ethanol in 2017 in BC to be 5.7 cents/L. Combined with ethanol's discount to gasoline at the rack (wholesale), ethanol in the BC RLCFRR reduced refiner's fuel costs by 6.5 cents/L.

⁵ <https://www.naviusresearch.com/publications/2019-biofuels-in-canada/>

⁶ <https://ihsmarket.com/products/gasoline-octane-improvers-chemical-economics-handbook.html>

⁷ <https://www.afpm.org/newsroom/blog/ethanol-producing-refiners-urge-president-rfs-policy-reform>

⁸ <https://www.nrcan.gc.ca/energy/transportation/alternative-fuels/resources/21268>

We note that refiners may claim that they do not rely on ethanol as a low-cost oxygenate, and that they can achieve sufficient octane index levels in refinery processes. But were that the case, Oil Companies have not provided a rationale for the significant premium (both wholesale and retail) they charge for premium-grade gasoline (minimum 91 octane).

It is relevant to note that a number of Oil Companies achieve 91 octane in premium gasoline by the addition of ethanol, and that the cost to the Oil Companies of this ethanol is substantially below the cost of alternative oxygenates, and below the cost of the gasoline blendstock.

Evidence of Exercise of Market Power: Negative branding of biofuels

Intervenors provided testimony that, “inappropriate pricing behaviour among suppliers becomes increasingly facilitated in presence of certain market characteristics’ that includes ‘Product or brand differentiation.’

Advanced Biofuels asserts that Oil Companies have engaged in a prolonged, industry-wide campaign to brand their most tangible competitor - biofuels - as a high-risk, expensive and marginal energy source.

Advanced Biofuels provided evidence (Exhibit C6-4) that biofuel use is far more prevalent and widespread in jurisdictions with comparable regulatory landscapes (e.g. California). In BC, none of the Oil Companies have adopted biofuel blending practices outlined in Exhibit C6-4 despite the finding of the BC government in 2015 and 2016 that these options were fully viable.

Oil Company testimony in the Oral Workshops provides a very good example (and hence, evidence) of how Oil Companies brand biofuels. Evidence provided to the Panel by Advanced Biofuels showed these cost and blend limit claims to be inaccurate.

“An additional pathway is to purchase and blend the hydrogenation derived renewable diesel, and that is a very expensive pathway, because again, as I mentioned before, often times the market price of HDRD is four to five times that of an equivalent unit of conventional diesel.”⁹

“So you can blend biodiesel into your diesel pool. But again, there are limits to how much you can put in, or what we call the “blend wall.”¹⁰

The refiners’ industry association provides the industry-wide messaging; this content was presented in several public forums¹¹ in September and is simply one example of biofuels branding by Oil Companies that has the result of reducing competition from biofuels and maintaining a fossil fuel monopoly”

“Renewable fuels blending determined by OEM’s validation of alternative fuels in vehicle fleet

- ethanol: E10 needed for legacy fleet, E15 validated for newer vehicles
- biodiesel (FAME): blending (~2% nationally) maxed out currently

⁹ https://www.bcuc.com/Documents/Proceedings/2019/DOC_54692_2019-07-19-TranscriptV3-OralWorkshop.pdf

¹⁰ Page 239 - https://www.bcuc.com/Documents/Proceedings/2019/DOC_54649_2019-07-17-Full-TranscriptV1-OralWorkshop.pdf

¹¹ <https://drive.google.com/file/d/1x7FighawyBP5hSnLDBu8sn0jUVgofWjo/view>

Recommendations

Consult with Expert Working Group

An expert working group, representative of the BC fuels sector, should inform a more detailed set of recommendations to BCUC and to the Minister of Jobs, Trade and Technology.

Increase Market Transparency – Market Share, Pricing, Infrastructure Sharing

Canadian institutions that collect and publish petroleum market data have traditionally withheld public access to data when there are a small number of entities in the market; i.e., when a market is highly concentrated.

We believe that the likelihood of exercise of oligopoly market power is reduced, in part, by enabling public access to market data. Public access will allow closer examination of individual firms' influence, and reduce public sentiment that Oil Companies conduct their business unfairly behind a veil of secrecy.

BCUC should require each fuel wholesaler to submit the following data to BCUC.

1. Wholesale fuel sales, by fuel, by location (primary terminal), by month
 - to retail stations operated under brands affiliated with/under license to/ etc. the Oil Company
 - to unbranded and/or unaffiliated stations
2. The names of other wholesalers (e.g., Oil Companies) with which it has a formal co-terminalling agreement (e.g. 'swap' agreements or terminal access agreements)
3. Wholesale fuel prices
 - to retail stations operated under brands affiliated with/under license to/ etc. the Oil Company – by brand, monthly weighted average
 - to unbranded and/or unaffiliated stations – by brand, monthly weighted average

The purpose of these submissions:

- to enable BCUC to understand whether branded/affiliated retail fuel retailers are being given an advantaged fuel cost position in the market vs. independent retailers' fuel costs (to address concern about the relatively higher concentration of branded retail sites in BC vs, rest of Canada)
- to enable British Columbians to have visibility on the degree of concentration in the market (as do Californians)

BCUC should publish the following data.

1. Monthly fuel sales (volume) by wholesaler
2. Monthly rack price comparatives for Vancouver, PNW, and Edmonton
3. Disclosure of terminal sharing or access agreements, including parties to the agreements

Increase wholesale competition – non exclusivity

BC has a wholesale fuel oligopoly, and no competition at wholesale racks. Four companies supply all refined fuel to BC, and five companies control its distribution to the retail market. These five firms have a high degree of control over the branded retail fuels sector; they set (unilaterally) retailers' fuel buying costs, control what fuels can be sold (including biofuels), and restrict retailers from buying outside supply agreements.

We perceive Oil Company supply agreements with branded retailers to be fundamentally against consumers' interests and a competitive market. The 'unexplained difference' in the Report is the result of exercise of wholesale market power. BC consumers will not see lower prices until there is more competition at wholesale.

BCUC should regulate the wholesale sector as follows.

1. Exclusivity of supply in agreements between an Oil Company and branded retailer should be prohibited.
2. Wholesale fuel prices charged by an Oil Company to retailers should be allowed to vary based on volume, but not on brand.
3. If wholesale inter-rack prices remain within a specified range of variability (e.g. 0.90 R²) for a specified duration (e.g. 30 days), BCUC would have the power to order an across-the-board rack price cap indexed to (and below) a moving average of Seattle rack prices or some other established index.

The rationale for these rules:

- Retailer freedom to purchase from other racks is necessary to discipline wholesale suppliers
- It would be in their interests to offer their brands lower rack prices, but Oil Companies would drive other retailers from the market if they were allowed to discriminate on the basis of brand (or other non-volume basis)

To the claim by Oil Companies that they must offer competitive pricing to branded retailers in order to retain their business at the end of a term

- Exhibit C6-7 showed that there is no competition between racks, and the notion that a change of brands (and Oil Company rack) will result in better price terms is a fiction in light of 2.5 years of data from BC's largest market
- Based on regression analysis of 683 daily inter-rack price reports (with a Vancouver inter-rack correlation of .9988), the highest possible fuel purchase cost improvement from a decision to switch wholesale supply for an average retailer was \$2,364, which represents less than 1/10th of 1% of an average retailers' annual fuel purchase costs.

To the claim that primary terminal operators require consistency of demand that exclusive supply arrangements offer:

- This implies that other markets where fuel suppliers face competition cannot function without guaranteed demand, which is clearly not accurate
- Overall regional fuel volumes will not change; the fuel will have to be supplied by the combined capacity of suppliers, but they will have to compete for market share

Increase wholesale competition – enable more independent retailers

A review of US fuels markets would establish that their greater competitiveness is due to a more robust independent retail sector (i.e., fewer brand-tied retailers) served by a more robust independent wholesale sector. The latter is comprised of independent ‘jobbers’ pulling from a multitude of racks, some of which are operated by ‘merchant’ refiners with no retail network.

In other markets with oligopolistic structures (e.g. telecom), infrastructure owners are required to make their distribution networks available to competitors.

BC could replicate some of the function of these more competitive markets by regulating in the following manner.

1. Primary terminals should be required to make a specified percentage of their storage capacity available for lease to non-refiner fuel distributors, under throughput and other costs on terms set by the regulator.

Oil Company intervenors commented against such access agreements on several grounds, which we address here.

To the claim that logistical and other impediments make it impractical or impossible for primary terminal operators to make their facilities open to the refined products supplied by other companies

- Very detailed CGSB standards for refined products exist precisely to enable the kind of arrangement suggested here. Oil Companies routinely share terminals, and manage multiple brands’ requirements with ancillary additive injection equipment and sophisticated product loading and inventory management. The claim that multiple products cannot be handled is without merit and is contradicted by current practice across many terminals.

To the claim that outside access would add costs to wholesale fuels:

- It is likely that per/unit costs might increase, but terminalling costs are a relatively small portion of fuel cost, and the price benefit to consumers from improved competition would likely more than offset added terminalling costs
- The oligopoly in fuel terminalling is likely to result in excessive ‘internal service fees’ imbedded in the wholesale prices of terminal owners. A regulation that sets fair ‘cost of service’ rates for terminal use may in fact result in more competitive wholesale prices.

Increase diversity of independent retail sector

BC has a high concentration of branded stations in BC vis-à-vis Alberta and other western provinces (Deetken undertaking, Exhibit A2-28). The ability of a small number of Oil Companies to control rack pricing for the majority of BC gas stations, with virtually no inter-rack price competition, is not in the best interests of BC consumers.

In the same manner that the federal Competition Bureau can determine regional concentration to be against the public interest in merger and acquisition review and require the sale of some assets to a

third party, a BC regulator could mandate the sale to non-refiners of retail stations in southern BC where concentration is high. In the case of branded stations, an Oil Company would be required to not renew the terms of its supply agreements for a specified number of branded retailers sufficient to bring concentration levels down.