REPORT

Expert Report – Petroleum Products Benchmark, Pricing, and Margin Review (2025)

Prepared For:
Island Regulatory and Appeals Commission

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Introduction and Project Overview

The Island Regulatory and Appeals Commission (the "Commission") is responsible for setting minimum and maximum wholesale and retail prices for heating, motor, and commercial fuels in Prince Edward Island (PEI). The Petroleum Products Act (1990) forms the basis for the Commission's regulation of the Province's petroleum product prices. The implied and stated objectives ensure a just and reasonable price for regulated fuels for both consumers and industry. The regulations, in effect, mitigate price fluctuation for consumers while ensuring wholesalers and retailers realize reasonable and sustainable margins.

In accordance with the Commission's 2023 Order[1] reviewing the petroleum pricing model and margins, the Commission committed to similar reviews every two years. This objective meant that the next full review[2] should be initiated in 2025 and served as the basis for this undertaking.

Specifically, this review, as per the statement of work provided by the Commission, will consider, but not necessarily be limited to:

- an evaluation of the chosen benchmark pricing methodology,
- a review of wholesale and retail margins for all regulated petroleum products,
- a review of propane pricing in PEI,
- an update on Clean Fuel Regulations to assess their impacts on the PEI fuel market,
- a general review of the current interruption policy and its impact on pricing/margins, and
- a general review of fuel product composition on the Island.

The Commission engaged Signal Energy Consulting (Signal), an independent industry consultant, to undertake this comprehensive review of the Commission's petroleum product pricing methodology, including benchmark pricing, pricing formulas, and margin structures. This project will support the Commission's ongoing regulatory mandate to ensure fair, transparent, and economically sound fuel pricing in PEI. This report aims to assist the Commission in understanding and evaluating the evidence presented by industry participants and provide an impartial, objective analysis, enabling the Commission to make the best decision possible under the law.

Signal is uniquely qualified to undertake this review: we are an experienced consultancy in the downstream petroleum sector. We have significant expertise, data, and analytical resources directly relevant to this project and a well-earned reputation for impartiality from clients across the spectrum of industry, government, and other stakeholders.

[1] Order PC23-007, dated December 7, 2023.
[2] With an application for interim adjustment notwithstanding.

Executive Summary of Recommendations

Our review, guided by the Commission's statement of work and subject to the analysis and methodologies described herein, has yielded recommendations for the Commission's consideration. Those recommendations are summarized as follows:

- We recommend that the Commission continue using a rack-based benchmark, without changes to its current approach. The rack-based benchmark has clearly demonstrated an effective balance between benefits and manageable risks, and has been a critical tool in meeting its regulatory objectives.

- Based on submitted data from wholesalers and our subsequent analysis, total operating costs related to fuel wholesaling in PEI increased over the evaluation period (2021 to 2025). The average change was an increase of 0.8 cents per litre. As a result, we recommend increasing the wholesale margin component for all regulated motor fuels from 5.0 cents per litre to 5.8 cents per litre.

- Given the lack of reliable acquisition cost data submitted by wholesalers, we recommend no change related to the shift in acquisition costs relative to benchmark pricing for wholesale.

- Based on submitted data from furnace oil operators and our subsequent analysis, total operating costs related to furnace oil operations in PEI increased over the evaluation period (2022 to 2025). The average change was an increase of 3.7 cents per litre. As a result, we recommend increasing the combined wholesale/retail margin component for regulated furnace oil from 23.1 cents per litre to 26.8 cents per litre.

- Given the lack of reliable acquisition cost data submitted by furnace operators, we recommend no change related to the shift in acquisition costs relative to benchmark pricing for furnace operations.

- Based on submitted data from retail fuel operators and our subsequent analysis, total operating costs related to retail fuel operations in PEI increased over the evaluation period (2022 to 2025). We recommend increasing the retail margins from 7.0 cents per litre (min) and 8.0 cents per litre (max) to 8.4 cents per litre (min) and 9.6 cents per litre (max), respectively, to reflect the observed percentage increase in retailer operational costs over the evaluation period.

- Given the lack of reliable acquisition cost data submitted by retail operators, we recommend no change related to the shift in acquisition costs relative to benchmark pricing for retail operations.

- The data and analysis suggest that the current interruption policy and methodology have been effective, and we suggest no changes.

- Propane operational costs have increased 23 percent (11.8 cpl) between 2021 and 2025 (the period for which we had sufficient data). However, there has not been an update to these margins for a much longer period, and it's unclear how to account for the likely cost increases before this period or the correct base margin to apply the evidenced increase to.

- We suggest that the Commission consider deregulating pricing for consumer and commercial propane deliveries on the Island. This product could be seen as "underserved" by current price regulations and could benefit from deregulation without necessarily materially affecting overall prices.

- PEI suppliers primarily rely on conventional fuels rather than the biofuel blends used in other Atlantic Provinces, which can contribute to pricing disparities between these markets. The Commission should continue to monitor fuel product composition on the Island, particularly the use of conventional vs. E10-blended gasoline, to help assess the validity of general disparities in gasoline rack prices between Charlottetown and other comparator markets such as Saint John and Halifax.

Background: Overview of Fuel Prices and Margins

UNREGULATED MARKETS – ELEMENTS OF FUEL PRICES AND MARGINS

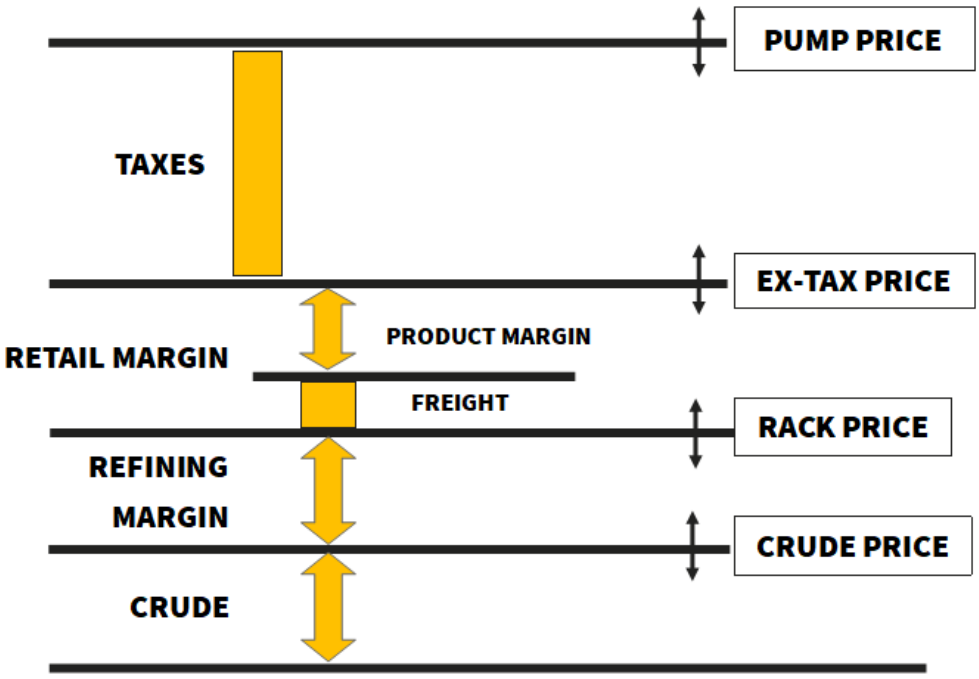
Understanding how pump prices are set and handled in regulated versus unregulated markets requires knowledge of the interrelationships among the principal stakeholders who ultimately share the revenue from fuel sales.

The interface between stakeholders in an unregulated market (Figure 1) is defined primarily by the price at which the product is transferred from each stakeholder to the next along the "value chain."

The revenue from a consumer's purchase of a petroleum product (such as gasoline) is distributed among four key sectors, each essentially earning a share of the total revenue generated at the pump. Its prices at each transfer stage in the value chain define and quantify these margins.

In an unregulated jurisdiction, transaction prices are agreed upon by stakeholders and driven by market forces: each market (retail, wholesale, and crude) is subject to distinct competitive dynamics, resulting in prices and margins that vary, often daily or intra-day.

Figure 1: Price and Margin Model in an Unregulated Market



The term "margin" used in this price and margin model refers to gross margin, which represents revenue generated from product sales. It is simply the difference between its two defining prices. For example, we define the gasoline retail margin as the ex-tax pump price minus the product's purchase

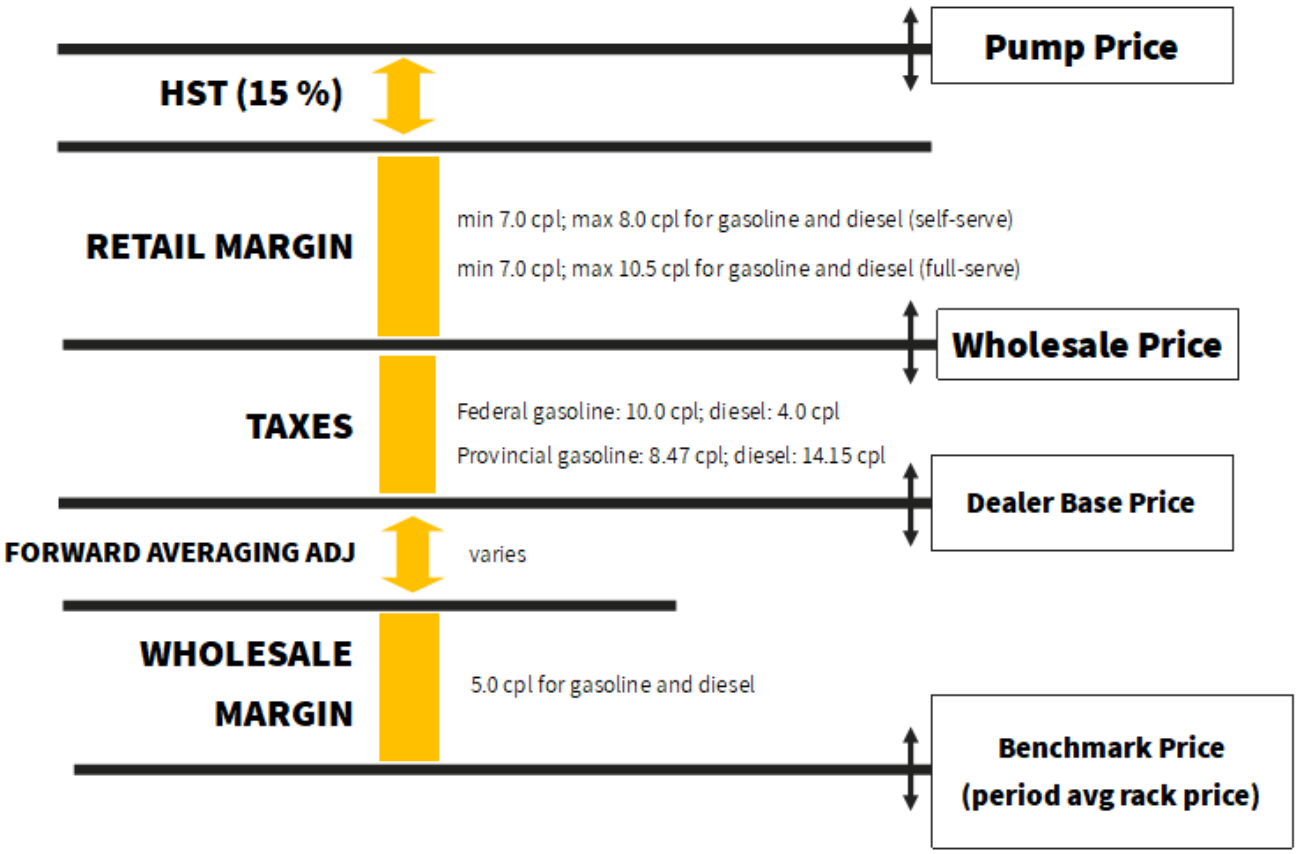
price, using the "rack" wholesale price as a proxy. However, most Canadian wholesale refined product transactions are priced using the posted rack price as only a reference point, with an agreed discount or premium applied.

REGULATED MARKETS – FUEL PRICES AND MARGINS IN PEI

Prince Edward Island, under the Petroleum Products Act, began its full regulation of petroleum product prices and margins in 1989. The stated purpose of PEI's fuel price regulations was to provide a just and reasonable price for consumers and industry. This purpose is achieved through a structure that aims to insulate consumers from general price volatility, while providing for reasonable margins for fuel wholesalers and retailers.

The Province aims to meet these objectives by regulating the components of retail fuel prices, as shown in Figure 2[3]. This approach establishes base prices for wholesalers and a regulated minimum and maximum retail price, setting an effective floor and ceiling on retail prices and allowing retailers to price anywhere within the regulated range.

Figure 2: Current Price and Margin Model under PEI Regulatory Framework (Gasoline and Diesel)



[3] Figure 2 represents the build-up for gasoline and diesel. Furnace oil prices and propane price build-ups vary from this model, to be addressed in more depth later in this report.

Benchmark/Base Price

Early regulations in PEI (1989) established base prices for wholesalers, set relative to the differentials between the benchmark (reference) price and regional wholesale prices. Initially, the Commission used crude oil prices as the benchmark, which it revised to New York Harbor (NYH) spot prices in 2002. Following a period of significant and sustained volatility in the NYH product market[4], the Commission revised the benchmark to reflect regional rack prices[5]. The current formula[6] uses the average of the previous week's Charlottetown rack price as its benchmark. While the frequency of regulatory adjustments has changed, the current rack-based (weekly) approach has been in place since 2019.

A rack-based benchmark is unique among the Canadian provinces that currently regulate fuel pricing, as all others use a version of NYH price assessments to establish their benchmark prices. The key benefit of choosing a rack-based benchmark is that it directly captures the dynamics of local or regional wholesale fuel markets and their pricing. In contrast, an NYH-based benchmark typically requires additional adjustments and regulatory intervention[7] to align the NYH proxy with local/regional prices. While there are (historical) similarities in pricing between these markets[8], due to their relative geographic proximity and the ease and low cost of transporting refined products along the Atlantic coast, provinces that utilize an NYH benchmark are potentially exposed to the risk of sustained, material, and often structural disparity between NYH price assessments and regional rack prices.

The gap (or differential) between regional rack prices and NYH benchmark prices can shift when structural changes or specific dynamics impact both markets asymmetrically. For example, environmental regulations such as carbon pricing and clean fuel regulations in Canada have pushed wholesale (rack) prices higher, while the NYH markets are relatively unaffected by these regulations. These factors have contributed to the recent increase in price differentials between the rack and NYH for motor fuels (Figures 3 and 4). If these disparities are not accounted for in the regulations, they can negatively affect available margin for market participants and ultimately threaten the security of supply in that market.

The primary concerns of a rack-based benchmark approach are typically centred on the competitiveness of the rack market itself: whether it is sufficiently competitive, potentially prone to manipulation, and whether the chosen rack(s) remain an accurate and transparent proxy for actual acquisition costs in the market. We will further examine and assess the factors related to PEI's choice of benchmarks later in this report.

[4] Primarily set off by the widespread impacts of Hurricane Katrina on supply infrastructure and product pricing in eastern North America.

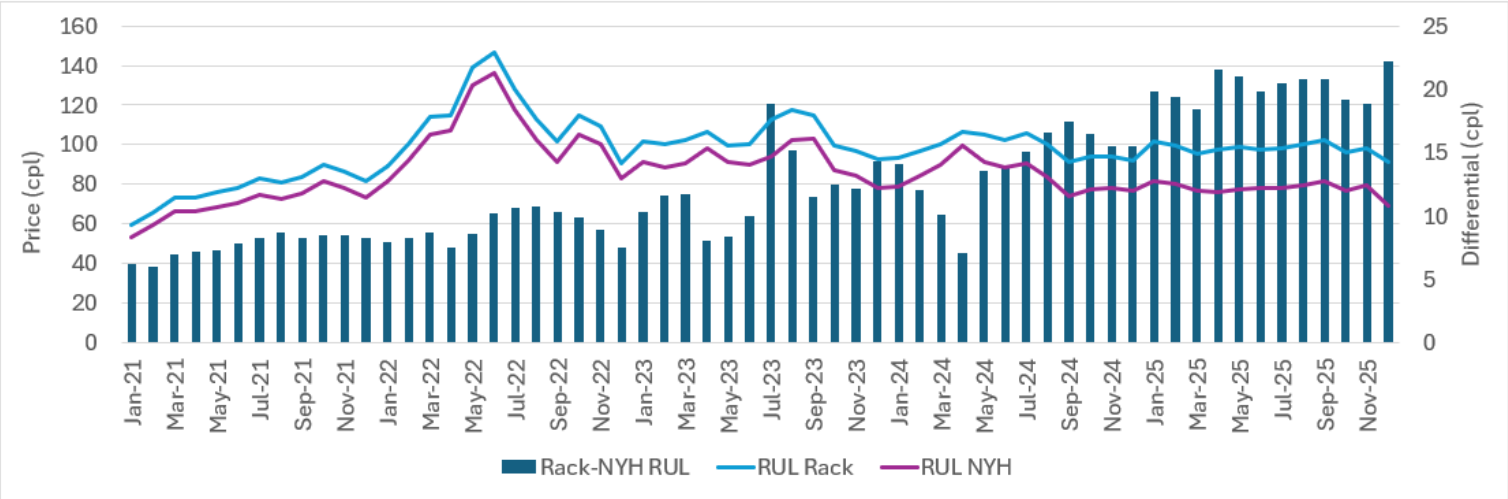
[5] This change was made in 2006 and initially used the Halifax rack price as its basis.

[6] As of 2012.

[7] This includes items such as cost of carbon adjustments, product formulation schedules, shifts in the regional relevance of specific NYH price assessments, and changes to reporting agency methodologies.

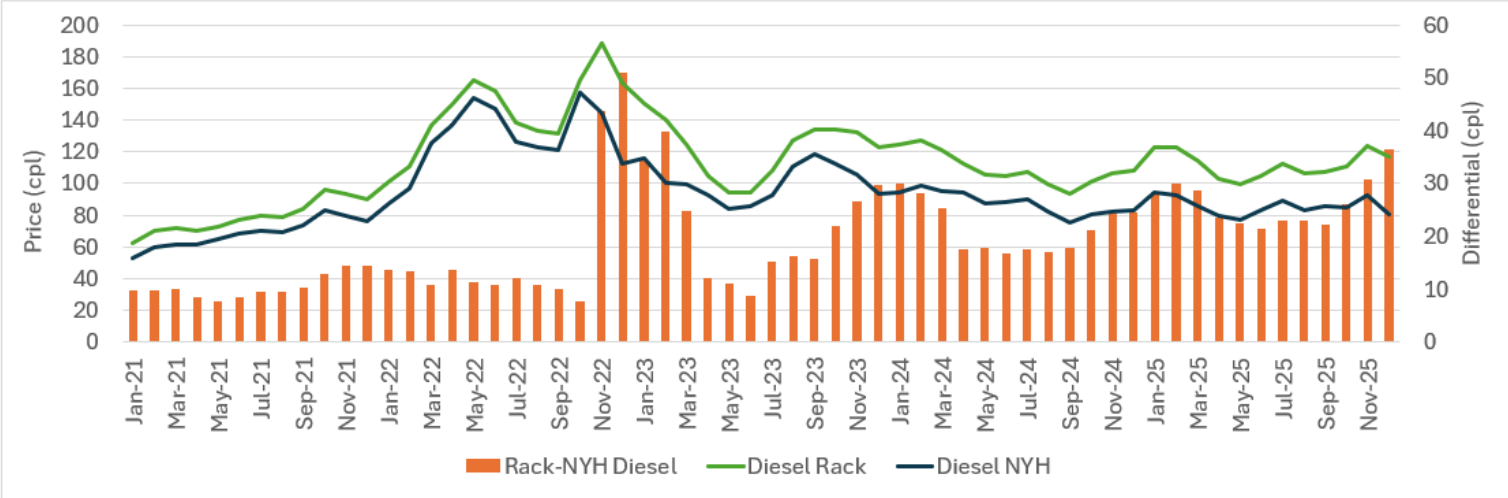
[8] NYH and local rack.

Figure 3: New York Harbor Spot Price and Charlottetown Rack Gasoline Price Comparison



Source: IRAC, Kalibrate Canada

Figure 4: New York Harbor Spot Price and Charlottetown Rack Diesel Price Comparison



Source: IRAC, Kalibrate Canada

Wholesale Margin and Retail Margins

The Commission determines the wholesale and retail margins applied in the regulated price formula, and typically bases its decisions on evidence presented by market participants and other stakeholders through a margin review process such as this. The regulated margins should provide sufficient revenue to cover all operating costs and yield a suitable return on capital for wholesalers and retailers. Failure to accurately account for these factors may pose a risk to the supply of petroleum products in PEI.

Under a rack-based benchmark like PEI, the wholesale margin effectively covers only the secondary wholesale function, as primary wholesale (and all related components) are embedded in the rack benchmark price. The Commission set PEI's wholesale margins for gasoline and diesel at 5.0 cents per litre before the transition to a rack-based benchmark, and has maintained them at that level since that transition in 2006.

Retail margins in PEI for gasoline and diesel are meant to cover the retailer's costs while also permitting a reasonable rate of return. These retail margins are currently set at a minimum of 7.0 cents per litre and a maximum of 8.0 cents per litre for self-serve, and a minimum of 7.0 cents per litre and a maximum of 10.5 cents per litre for full-serve. Historically, the retail margins for motor fuels have moved from 4.0 cents per litre (min) and 5.5 cents per litre (max) in 1991, to 4.5 and 6.5 cents per litre, respectively, in 2008, to 6.0 and 7.0 cents per litre, respectively, in 2020, and then to current levels in 2022.

Wholesale and retail margins for furnace oil are combined into a single margin. Over the evaluation period covered herein[9], the combined margin has moved from 21.0 cents per litre to 21.5 cents per litre in September 2022 and 23.1 cents per litre in January 2024, which remains the current combined margin level for furnace oil.

In most Atlantic provincial fuel price regulatory schemes, retailers may negotiate a pricing arrangement with their wholesaler, thereby operating, in practice, more like an unregulated model, provided they sell within the mandated minimum/maximum retail price range. However, PEI structures its regulations as more of a fixed-margin model that requires transactional pricing to comply with regulated dealer, wholesale, and retail prices. The Petroleum Products Act explicitly states that no wholesaler or retailer shall sell a petroleum product at a price that differs from that amount last approved by the Commission or with a margin that is not within the minimum and maximum margin determined by the Commission.

Forward Averaging

When setting the dealer base prices, which ultimately serve as the basis for regulated wholesale and retail prices, the Commission adds the average Charlottetown rack price for the previous week to the wholesale margin, then adjusts that total using the forward averaging adjustment. The forward averaging adjustment amends the weekly average price up or down to maintain the year-to-date weighted-average wholesale and retail margins. In effect, if prices change in a way that results in over- or under-performance of product margins relative to the regulated amounts, the forward averaging adjustments will smooth out that disparity and bring the volume-weighted year-to-date margins back

[9] 2021 to 2025.

in line with the desired levels. This adjustment ensures consistent margin performance for market participants and allows the Commission to reduce overall volatility without punishing the industry or consumers for intra-period price fluctuations.

The Commission has some discretion to adjust methodologies and conduct unscheduled price adjustments. In that context, the forward averaging adjustment can also be used to adjust the weekly price when external factors affect market prices, necessitating intervention to maintain market stability and margins.

Cost of Carbon and CFR Compliance Costs

In June 2022, the Government of Canada introduced the new Clean Fuel Standards (CFR) under the Canadian Environmental Protection Act, 1999. The new CFR was designed to replace the current Renewable Fuel Regulations (RFR) on July 1, 2023. The CFR requires primary suppliers (producers and importers) of liquid fossil fuels to reduce the carbon intensity of the liquid fossil fuels they produce and import into Canada by 2.4 gCO2e/MJ in 2022 (from 2016 levels) to 12 gCO2e/MJ in 2030.

Producers and importers of gasoline and diesel in PEI can comply with the regulation by blending conventional motor fuels (gasoline or diesel) with lower-carbon-intensity renewable fuels, by investing in producing lower-carbon-intensity fuels, or by buying credits on a secondary market. Each pathway to compliance imposes a cost on producers or importers, which is reflected in the wholesale prices primary suppliers charge the market. This cost is embedded in the rack price charged by primary suppliers, and so upstream of the current PEI benchmark.

An added benefit of a rack-based benchmark is the obviation of any regulatory intervention to address CFR compliance costs, as these costs are incorporated (as an operational cost) into the rack price used to formulate PEI's benchmark price. Any change to a benchmark price that uses NYH spot pricing would require the introduction of an adjustment for CFR compliance costs, similar to other Atlantic price regulatory jurisdictions. We will address CFR, compliance costs, and the options for handling a regulatory transition to a NYH benchmark in more detail later in this report.

Taxes

Taxes on fuel in PEI have both fixed and variable components. They include provincial excise taxes, calculated at fixed rates of 8.47 cents per litre for gasoline and 14.15 cents per litre for diesel fuel. Federal excise taxes are also applied at fixed rates: 10.0 cents per litre for gasoline and 4.0 cents per litre for diesel fuel. Petroleum taxes include the harmonized sales tax (HST), calculated on a percentage basis (15 percent) for both products and applied after fixed taxes and margins. Each of these tax rates has not changed over the evaluation period covered in this report (since 2021).

The carbon tax on gasoline and diesel was still in place at the beginning of the evaluation period for this report, at 6.6 cents per litre for gasoline and 8.1 cents per litre for diesel. It increased in 2022, 2023, and 2024 up to 17.6 cents per litre for gasoline and 21.4 cents per litre for diesel before it was cancelled and removed in April 2025.

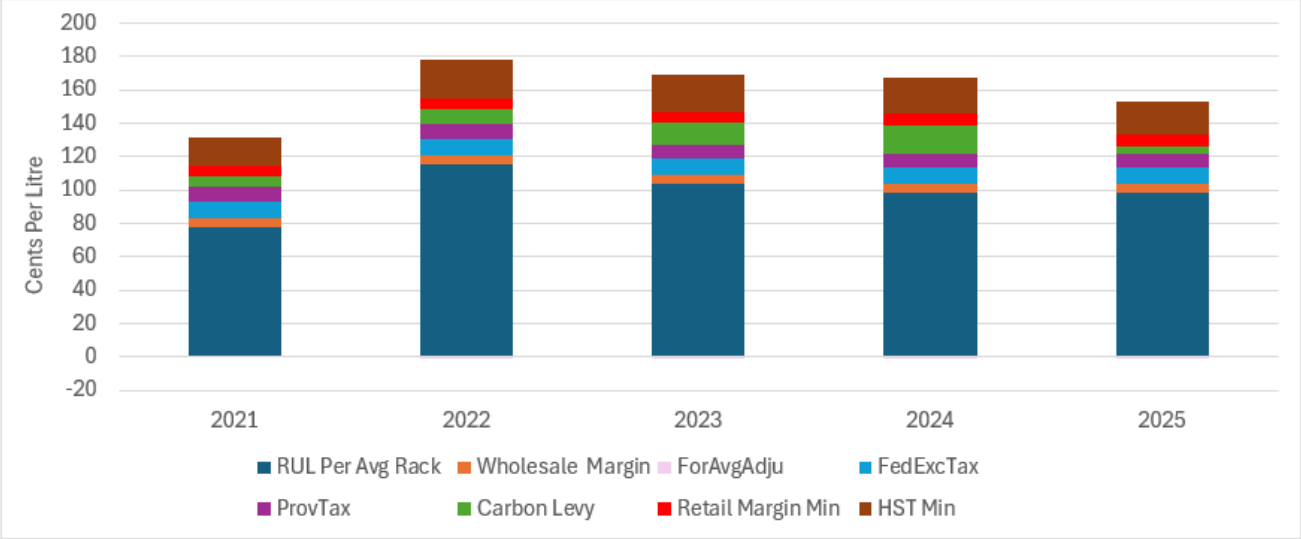
A summary of the current regulated price components for gasoline, diesel, and furnace oil is shown in Table 1, as applied to a recently published price schedule.

Table 1: Price Schedule - IRAC Petroleum Product Pricing Breakdown (Self-Serve - February 27, 2026)

	Min	Max		Min	Max		Min	Max
Gasoline	**cpl**	**cpl**	**Diesel**	**cpl**	**cpl**	**Furnace**	**cpl**	**cpl**
Benchmark Price		**98.2**	***Benchmark Price***		**139.6**	***Benchmark Price***		**105.5**
Wholesale Margin		5.00	Wholesale Margin		5.00	Wholesale & Retail Margin		23.10
Fwd Avg Adj		-0.60	Fwd Avg Adj		-1.50	Fwd Avg Adj		1.60
Dealer Base Price		**102.6**	***Dealer Base Price***		**143.1**	***Max Price (before tax)***		**130.2**
Federal Excise Tax		10.00	Federal Excise Tax		10.00	Federal Fuel Charge		N/A
PEI Prov Tax		8.47	PEI Prov Tax		14.15	*Tax (5%)*		6.5
Wholesale Price		**121.1**	***Wholesale Price***		**161.3**	**Max Price (after tax)**		**136.7**
Retail Margin	7.0	8.0	Retail Margin	7.0	8.0			
HST (15%)	19.2	19.4	*HST (15%)*	25.2	25.4			
Pump Price (SS)	**147.3**	**151.3**	**Pump Price (SS)**	**193.5**	**194.7**			

Figure 5 shows a build-up of the annual averages for the gasoline (RUL) pricing components since 2021. Most components are relatively stable over time, with changes in the underlying rack price accounting for most of the price shifts[10].

Figure 5: RUL Gasoline annual average regulated price component build-up in PEI (cents per litre)



Source: IRAC

[10] As well as the growth and then eventual removal of the carbon levy in 2025.

A jurisdictional review of Atlantic Canadian gasoline[11] fuel price regulation is presented in Table 2.

Table 2 contrasts the relative simplicity of a rack-based approach with that of an NYH-based benchmark. No carbon adjustments are necessary under a rack-based benchmark, because the costs associated with CFR compliance are embedded in the rack price. In addition, product formulation issues[12] and the relevance of specific reporting agencies' price assessments do not need to be considered or adjusted for in PEI because the rack price benchmark always reflects the cost for "on-spec" product, and potential disparities between the rack and specific NYH price assessments occur outside of a regulatory framework that builds up prices from a rack-based benchmark.

[11] We chose to present gasoline only for brevity, but beyond minor differences in margin levels, the key aspects of other fuels' price regulations are similar to those of gasoline.

[12] Specifically, those related to seasonal blending of distillate products.

Table 2: Overview of Gasoline (Self-Serve) Price Regulatory Approach by Province (Atlantic Canada – as of December 2025)

	New Brunswick	Prince Edward Island	Nova Scotia	Newfoundland & Labrador
General Structure	Price Ceiling	Price Ceiling and Floor	Price Ceiling and Floor	Price Ceiling
Price Adjustment Frequency	Weekly	Weekly	Weekly	Weekly
Benchmark	NYH	Charlottetown Rack	NYH	NYH
Interrupter Clause	Yes	Yes	Yes	Yes
Cost of Carbon Adjustment	N/A – recently removed[13]	N/A – cost embedded in rack	5.46 cpl	5.4 cpl
Wholesale Margin	17.41 cpl[14]	5 cpl	13.84 cpl[15]	15.65 cpl
Retail Margin	10.66 cpl	7 – 8 cpl	5.4 – 7.4 cpl	14.28 cpl
Transportation Adjustment	Actual to max of 4.75 cpl	N/A	0.6 cpl[16]	0.0 cpl[17]
Other Adjustments	Market Adjustor	Forward AVG	Forward AVG and mark-up adj	N/A
Federal and Provincial Fuel Taxes	20.87 cpl	18.47 cpl	25.5 cpl	17.5 cpl
HST/GST	15%	15%	14%	15%

[13] Removed as of December 1st, 2025, but as per the Hearing Order delivered on November 28, 2025, the Board ordered an interim adjustment to the wholesale margin equivalent to the CCA on this date and left in place until a final decision is rendered in Matter PT-005-2025.
[14] Base margin of 9.51 cpl plus the CCA interim adjustment.
[15] Based on a temporary order, this was reduced to 10.84 cpl on January 9, 2026, with a corresponding change to the clean fuel adjustor methodology.
[16] For Zone 1, but this amount varies by Zone.
[17] For the base zone, but this amount varies considerably by zone.

Assessment of the Rack-Based Benchmark

PEI transitioned from crude oil prices as the benchmark in early regulations to NYH spot prices in 2002, and then to a rack-based approach since 2006[18]. The current formula uses the average of the previous week's Charlottetown rack price as its benchmark. While the frequency of regulatory adjustments has changed, the current rack-based (weekly) approach has been in place since 2019.

A rack-based benchmark is unique among the Canadian provinces that currently regulate fuel pricing, as all others[19] use a version of NYH price assessments to establish their benchmark prices. The key benefit of choosing a rack-based benchmark is that it effectively and directly captures the pricing dynamics of local or regional wholesale fuel markets. In contrast, an NYH-based benchmark typically requires additional adjustments and regulatory interventions[20] to align the NYH proxy with local/regional prices. While there are (historical) similarities in pricing between these markets, due to their relative geographic proximity and the ease and low cost of transporting refined products along the Atlantic coast, provinces that rely on an NYH benchmark are potentially exposed to the risk of sustained, material, and often structural disparity between NYH price assessments and regional rack prices.

The gap between regional rack prices and NYH benchmark prices can be affected by structural changes or dynamics that asymmetrically affect both markets. For example, the costs associated with clean fuel regulations in Canada have pushed rack prices higher, while NYH markets are relatively unaffected by these regulations. These factors have contributed to the recent increase in price differentials between the rack and NYH for motor fuels. If these types of disparities are not accounted for in the regulations, and the relevance of the NYH spot market (relative to the regional rack market) is diminished, this can negatively affect available margin for market participants and ultimately threaten the security of supply in that market.

Figure 6 shows the differentials between the Charlottetown rack and NYH spot price comparators[21] over the evaluation period for gasoline, diesel, and furnace oil. Some trends and shifts in these differentials should be noted and explained in more detail. The first is the general "baseline" rise in these differentials (particularly gasoline and diesel) after mid-2023. This trend is due specifically to the introduction of the CFR and the compliance costs embedded in rack prices, which push those prices higher relative to NYH, which is unaffected by these regulations.

Additionally, there were seasonal (winter) spikes in the diesel and furnace differentials. These spikes were most pronounced starting in late 2022, driven by the Russian invasion of Ukraine and the impact of related sanctions on fuel supply and the NYH market for winter-blending fuel components, such as kerosene. These issues have persisted, albeit to a lesser degree, in each winter heating season since.

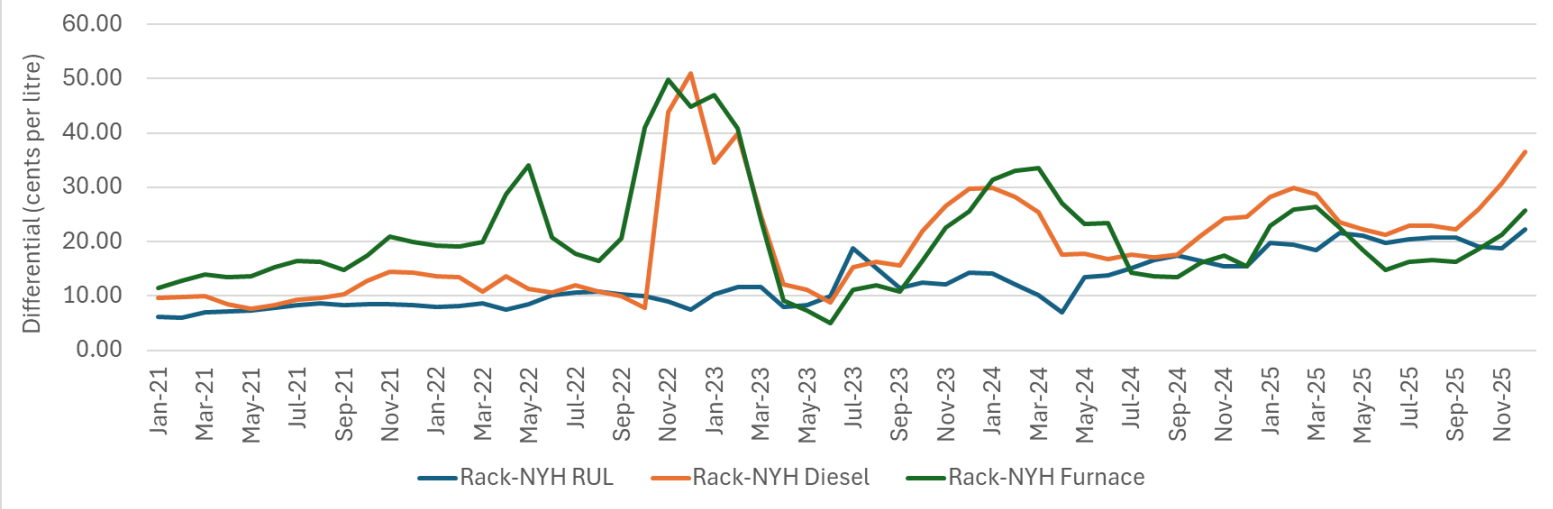
[18] Initially using Halifax rack prices and then transitioning to Charlottetown rack.

[19] As of the date this report was prepared. There is currently evidence before the NBEUB (PT-005-2025) that recommends a transition to a rack-based benchmark to address some of the issues they have encountered with the relevance of the NYH benchmark. A decision by the NBEUB is pending.

[20] This includes items such as the cost of carbon adjustments, product formulation schedules, shifts in the regional relevance of specific NYH price assessments, and changes to reporting agency methodologies.

[21] Shown as the rack price less the NYH spot price.

Figure 6: Charlottetown rack price less NYH spot price differentials for gasoline, diesel, and furnace oil.



Winter-blended distillates rely on components such as kerosene to improve the product's low-temperature operability and meet product specifications in Canadian winters. These blending components have become generally more expensive, and their markets are increasingly volatile. These costs drive up the price of "on-specification" distillates sold in Canadian rack markets, but they are not reflected in NYH price assessments for standard (unblended) distillates. Other Atlantic jurisdictions that rely on an NYH-based benchmark have had to adjust their approach to account for these costs by introducing winter blending schedules to incorporate kerosene costs and by making changes to specific NYH price assessments and reporting agencies to better align with how these costs are manifesting in regional rack markets. This problem persists in many of these jurisdictions despite attempts to intervene, as the NYH kerosene markets have often been unreliable proxies for the impact of related costs on regional rack prices.

The Commission's rack-based approach has allowed the PEI regulators to avoid some of the issues that impacted Atlantic jurisdictions that rely on an NYH benchmark, such as the costs related to CFR compliance, seasonal product formulation issues, and issues related to specific price reporting agencies and price assessments that may not reflect the local/regional market dynamics. Under current market conditions, which have become increasingly complex and volatile, a rack-based benchmark is likely to reflect better the specific pricing dynamics of the PEI fuels market, helping the Commission achieve its regulatory objectives while minimizing risks to security of supply and market stability.

The primary concerns of a rack-based benchmark approach are typically centred on the rack market itself: whether it is sufficiently competitive, transparent, potentially prone to manipulation, and whether the chosen rack(s) remain an accurate proxy for actual acquisition costs in the market.

More specifically, Signal would characterize these concerns in the following manner:

- Rack prices do not reflect a "market-derived" price in the same way as an NYH index-based price assessment. A limited number of primary suppliers set rack prices in a given market, and these prices do not necessarily reflect a "transacted price." The volume of transactions as a function of the rack price is relatively limited compared to the NYH market, and the actual acquisition costs (which are usually at a discount or premium to the rack price) are not

necessarily known or reported. As a result, there are concerns that a rack-based benchmark may be more prone to manipulation and less transparent in its derivation than an NYH benchmark.

- Because there is a limited number of primary suppliers setting rack prices in markets such as Charlottetown, there is greater concern that rack prices may be insufficiently competitive or heavily influenced or controlled by the market power of a few suppliers. This concern is generally centred on the idea that market participants may be maximizing returns in a type of "captive" market and does not necessarily reflect input costs, the marginal cost of alternative supply, or transportation differentials that one might expect in a competitive market.

- Are the chosen racks and their daily prices a good proxy for actual acquisition costs in the market? Has this relationship between these two price parameters materially changed in a way that reduces the relevance of the chosen rack benchmark?

The types of issues outlined above would typically manifest in rack pricing, which would demonstrate a general insufficiency of competition through material, sustained, and unexplainable disparities, whether between individual suppliers in a specific market or between market averages of comparator racks over time.

While rack prices may not represent a market-derived price in the same way as a NYH index price assessment, they do serve as a generally accepted reference for a transactional price[22] that is determined individually by market participants competing to supply a given market. As long as rack prices and margins demonstrate that price movements across regional markets in Eastern Canada tend to follow one another, and that when these relative movements differ, they respond predictably to clearly identifiable market factors, this can indicate a sufficiently competitive market. While there are only a limited number of primary suppliers setting rack prices in PEI, there is some evidence that these suppliers compete on price and that rack suppliers in a regulated market (like PEI) generally price in ways that often align with unregulated markets.

Additionally, while day-to-day movements in the NYH market still influence regional rack prices, rack markets have the added benefit of "pricing in" factors that directly affect local or regional product supply, which may not have an equivalent price impact in the NYH market. The use of rack pricing as a benchmark not only captures structurally asymmetric regulatory components, such as CFR compliance costs, but also helps avoid other potential market-specific disparities between NYH and the prices operators pay in the PEI market.

Concerns about the transparency of rack pricing can stem from the fact that only some primary suppliers "post" their rack prices publicly, while others disclose them only to customers. While this may be the case, market intelligence and fuel price reporting services such as OPIS provide third-party, detailed, daily assessments of Canadian rack prices at all available rackpoints, with pricing listed for all major primary suppliers in these markets.

Actual transaction prices are likely to differ from the rack, and the contracted discounts or premiums are not known or reported publicly. Through this mechanism, there is (theoretically) the potential to manipulate rack prices and the benchmark. This manipulation could be achieved by, say, raising the

[22] The actual transaction prices are likely to be set according to contracted differentials to the posted rack price, and so the rack price can act as a practical reference for actual price settlements and relative price movement.

rack price while offering a larger discount to its customers; this potentially increases the maximum allowable wholesale price while the supplier still maintains competitiveness with other suppliers. While hypothetically possible, this sort of manipulation is likely to be captured and corrected in any wholesale margin review process that looked at the changing differential between actual acquisition costs and the benchmark. A scheme to manipulate rack pricing and the benchmark in this manner would show up in a margin review as actual acquisition costs falling relative to the benchmark, resulting in a corresponding reduction in the recommended allowable margin.

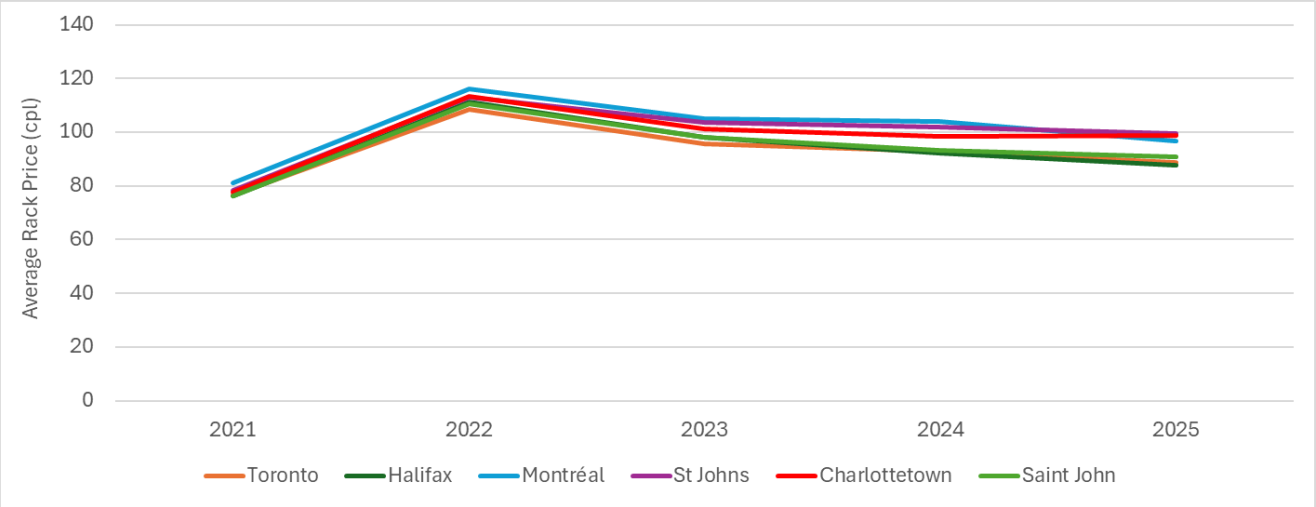
The Commission maintains numerous options to monitor ongoing pricing activity and the competitiveness of its rack benchmark relative to nearby rack markets. Any effort to manipulate the rack prices and the benchmark is likely to become evident when comparing the individual pricing strategies of market participants to activity in other regional rack markets, and when comparing the movement of the average for the chosen rack benchmark relative to other regional regulated and unregulated rack markets. In cases of unexplained or unusual market activity, the Commission can take action to address it within the context of its authority to initiate a further review of the mechanism.

Analysis of Rack Pricing and Margins in Atlantic Canada

Whether in regulated or unregulated markets, rack prices in Canada tend to move similarly when they are within or influenced by a shared "supply orbit," as comparable market dynamics likely affect their prices. Small changes in the relationships between a price-regulated market (like those in PEI) and other similar markets can sometimes signal issues with a regulator's approach and its ability to adapt to market shifts. Still, they can also reflect valid responses to disparate market conditions.

Figure 7 shows the average monthly gasoline rack prices in Charlottetown compared to other regional markets (both regulated and unregulated)[23]. Again, this figure indicates that rack prices across these markets generally follow similar trends and trade within a relatively narrow price range over time. A closer look at the movement of these prices, expressed as differentials relative to the Charlottetown price, can sometimes highlight shifting relationships driven by market dynamics or other factors.

Figure 7: Average Annual Gasoline Rack Prices in Charlottetown and Comparable Canadian Markets



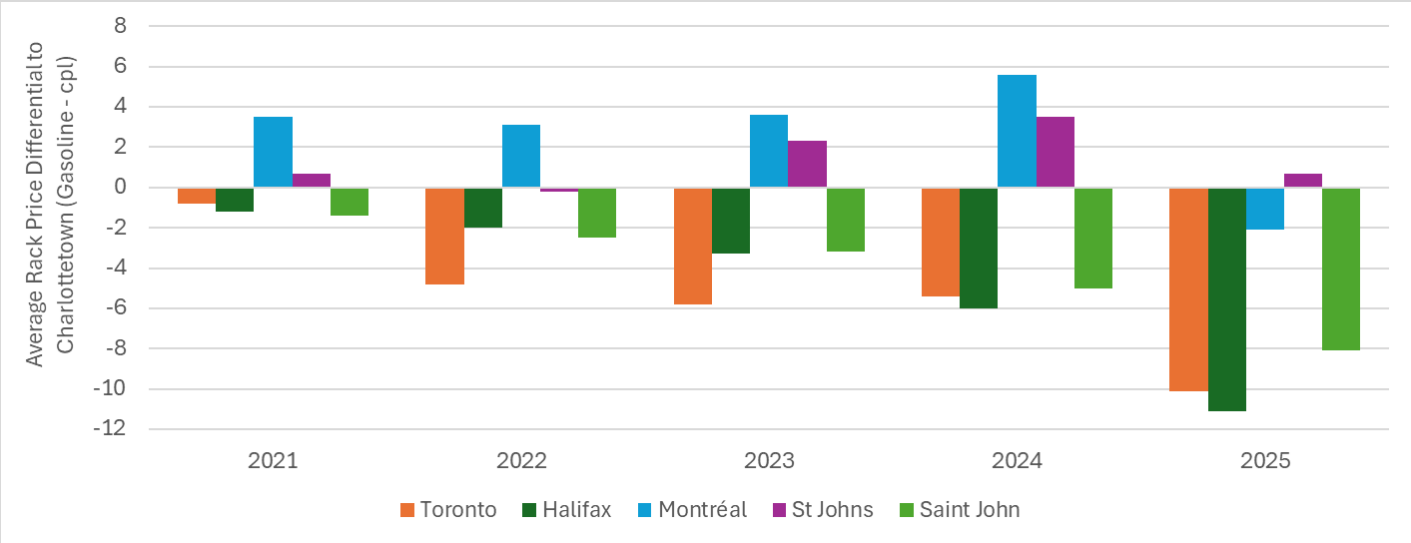
Source: Kalibrate Canada

[23] The chosen comparator markets are Halifax, St. John's, Montreal, Saint John, and Toronto.

Figure 8 shows that the Charlottetown gasoline rack differentials relative to comparable markets were relatively small in 2021, but a gap has opened up with several markets over the last few years. The gap with Montreal was driven primarily by Quebec's participation in cap-and-trade regulations, which widened that differential throughout most of the evaluation period. In contrast, Ontario's elimination of cap and trade and its prevalence of lower-cost E10[24] gasoline blends have created a growing gap as Toronto's rack prices have increasingly sat below Charlottetown's.

Similarly, Halifax and Saint John gasoline racks have been increasingly below Charlottetown over the evaluation period, while the gap with St. John's has remained relatively small. Charlottetown and St. John's gasoline rack prices appreciated relative to Saint John and Halifax in response to higher costs of bringing products to the islands[25] and a greater reliance on conventional gasoline[26] in PEI and Newfoundland (and a growing cost disparity between conventional and E10 gasoline). In all, this provides some evidence that Charlottetown rack prices (and those in comparable markets) appeared to respond predictably to shifting market dynamics over the evaluation period[27], and exhibited signs of a broadly competitive market despite regional variances in rack pricing.

Figure 8: Average Annual Gasoline Rack Price as a differential to Charlottetown (Market less Charlottetown)



Source: Kalibrate Canada

[24] A blend of 10 percent ethanol and 90 percent blendstock (CBOB) that is readily available with a relatively lower cost to procure, transport, and blend in the central parts of the continent.

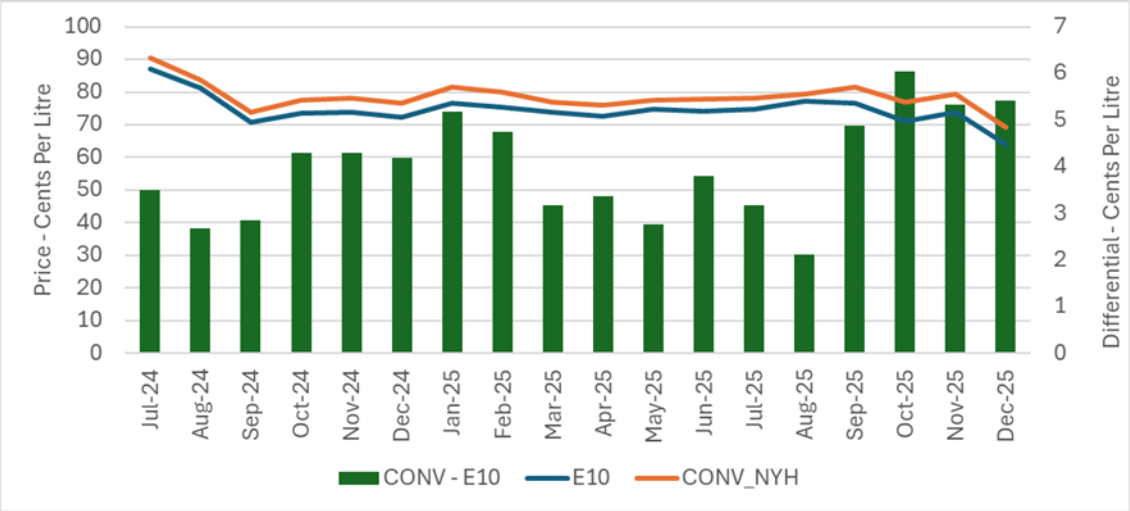
[25] Primary suppliers reported fairly significant increases in product shipping costs over the evaluation period.

[26] Ethanol supply to PEI and NFLD can be limited and potentially price-prohibitive; therefore, PEI and NFLD rely primarily on unblended conventional gasoline, which generally sells at a higher price.

[27] For brevity, we did not include a similar analysis of diesel, but its relationships do not differ materially beyond smaller differentials, since there are no E10 vs conventional cost differences with diesel.

Figure 9 shows the assessed monthly average cost difference between conventional and E10 gasoline based on the Commission's tracked data comparing converted[28] NYH conventional RUL gasoline with a blend of 90 percent CBOB NYH spot and 10 percent NYH ethanol. It shows that this cost gap has grown with conventional gasoline becoming increasingly expensive relative to E10 blends, averaging roughly 5.5 cents per litre higher over the last quarter of 2025.

Figure 9: Conventional gasoline prices (NYH spot) vs E10-blended gasoline costs and their average differentials



Source: IRAC

This cost difference between conventional and E10, when considered alongside a reported rise in shipping costs to move products to the point of distribution in PEI[29], accounts for most of the observed differences between Charlottetown and other regional rack markets (Halifax and Saint John) that rely almost exclusively on E10 blended gasoline.

As an extension, one can examine how the conventional-to-E10 spread, increased shipping costs, and the introduction of CFR compliance costs compare with the spread between NYH gasoline spot prices and Charlottetown rack prices. Figure 10 shows that most of the difference between NYH gasoline spot prices and Charlottetown rack prices is accounted for by just CFR compliance costs[30] and the conventional gasoline premium (near 70 percent in the last quarter of 2025). When considering the increased shipping costs, they account for even higher percentages of the observed rack-to-NYH spread.

When adjusting the gasoline rack-to-NYH spread by removing the CFR compliance costs and the conventional gasoline premium, Figure 11 shows that the remaining spread declines (on average)

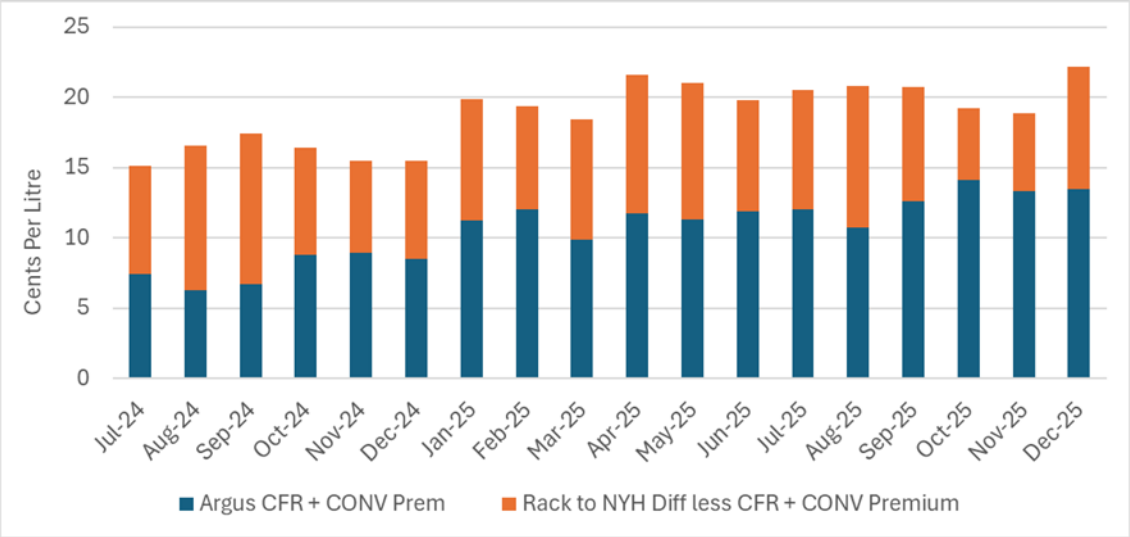
[28] Converted from US cents per gallon to Canadian cents per litre.

[29] There was only one primary supplier that reported shipping costs related to delivering products to PEI, so for reasons of confidentiality, we cannot disclose specific numbers related to this rise in costs, but we can characterize the increase as both reasonable and material.

[30] Estimated here using the Argus Atlantic CFR compliance cost price assessment. This is broadly considered the best proxy for incurred compliance costs in Atlantic Canada and how those costs have translated into rack price adjustments.

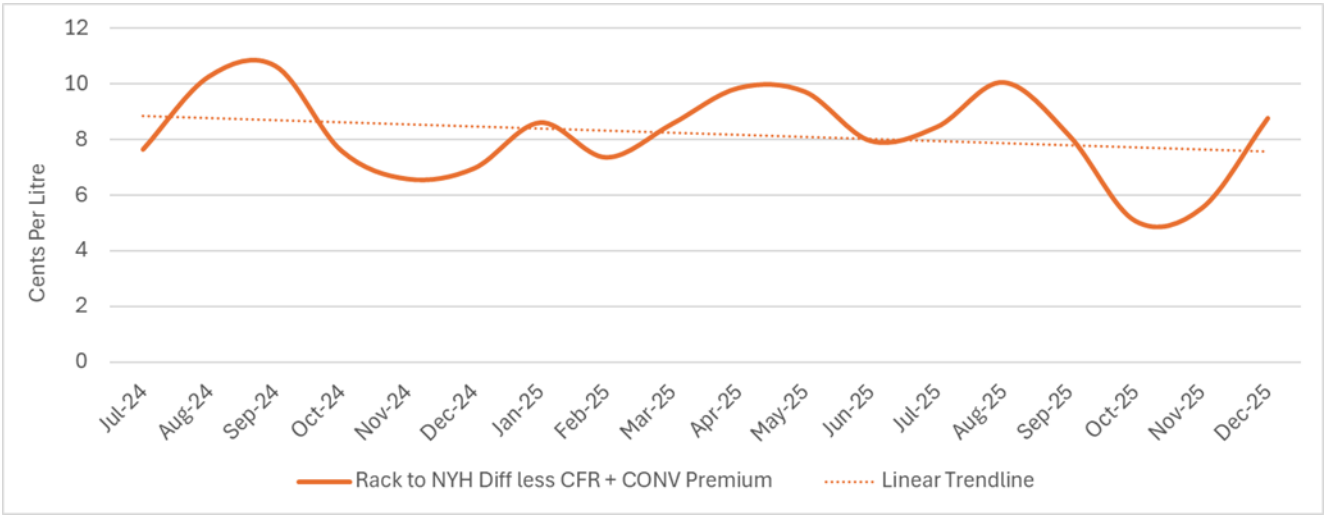
over the evaluation period. It is also generally in line with where that spread was before the introduction of CFR and the shift in conventional gasoline premiums[31].

Figure 10: CFR compliance costs and conventional gasoline premiums as a portion of the spread between Charlottetown rack and NYH



Source: IRAC, Signal calculations

Figure 11: Rack-to-NYH spread less CFR compliance costs and conventional gasoline premiums



Source: IRAC, Signal calculations

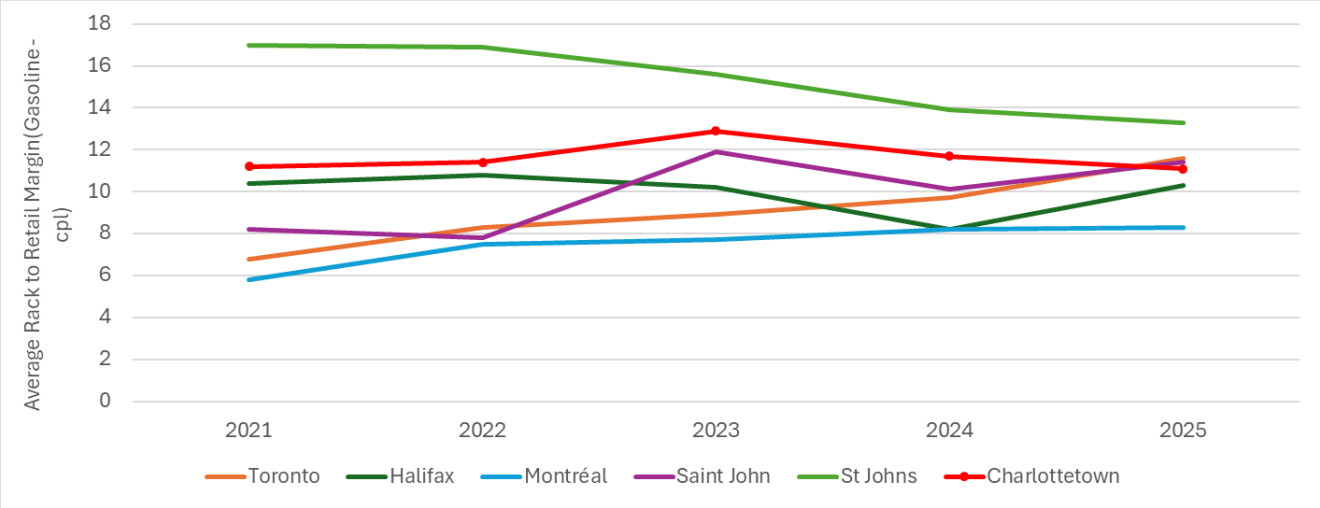
These observations demonstrate that nearly all of the spreads between Charlottetown and other regional racks (like Halifax and Saint John) and the spreads between Charlottetown rack prices and NYH spot prices can be explained by some combination of the cost differences between conventional gasoline and E10 blends, the impact of CFR compliance costs, and increased marine transportation costs. This finding could also be interpreted as evidence of the relative competitiveness of the Charlottetown rack market, as objectively observable market factors and dynamics can reasonably explain demonstrated pricing differences.

[31] And this is does not contemplate the increase in shipping costs that would reduce this spread further.

Another method to assess how rack markets are functioning and the general effectiveness of a regulatory approach is to compare rack-to-retail margins between Charlottetown and other comparator markets (both regulated and unregulated). Figure 12 shows the gasoline rack-to-retail[32] margins for the same set of comparator markets over the evaluation period. These margins between Charlottetown and other regulated and unregulated comparator markets show relative consistency over the evaluation period, with all markets exhibiting similar trends and all[33] remaining within a 4-cent-per-litre range over most of the evaluation period.

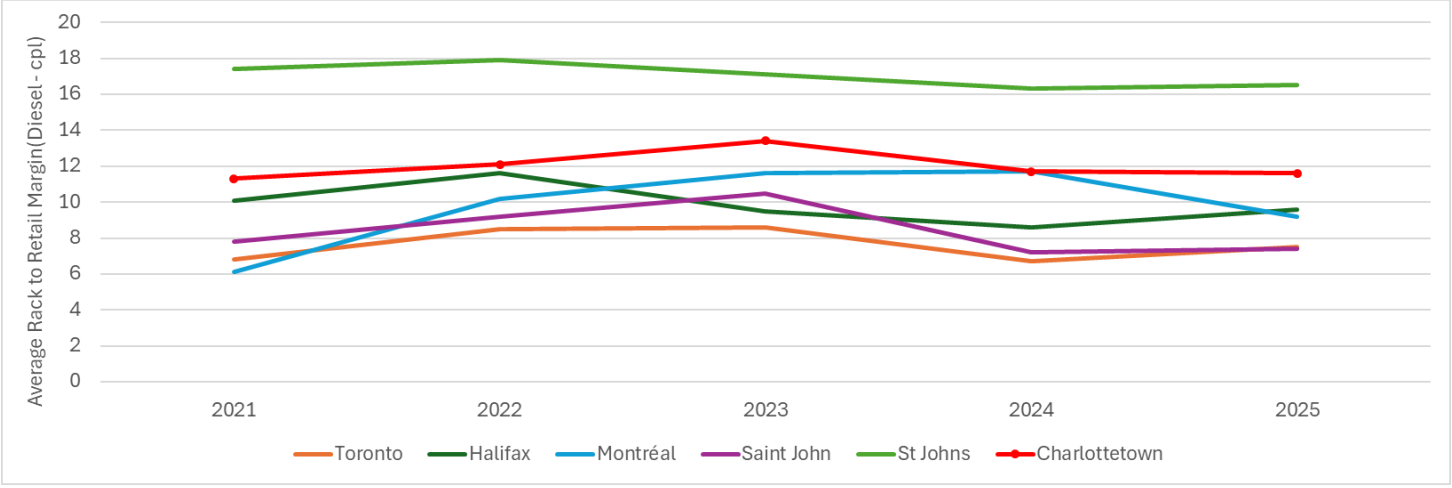
Figure 13 shows the diesel rack-to-retail margins. While Charlottetown's margins were towards the higher end of the range, it is not fundamentally misaligned with other regional regulated markets. All markets' margins, except St. John's, are within a relatively narrow range, and that range has been consistent for most of the evaluation period.

Figure 12: Average Gasoline Rack-to-Retail Margins for Charlottetown and Comparable Markets



Source: Kalibrate Canada

Figure 13: Average Diesel Rack-to-Retail Margins for Charlottetown and Comparable Markets



Source: Kalibrate Canada

[32] Simply calculated as the difference between the rack price and the ex-tax pump price for that market, based on Kalibrate Canada data.

[33] With the exception of St. John's, Newfoundland.

Despite all of the markets shown in Figures 12 and 13 operating under a diverse set of regulatory regimes, from unregulated (Toronto and Montreal), price ceilings and floors (Halifax and Charlottetown), and only price ceilings (Saint John and St. John's), all with different regulatory approaches and benchmark setting mechanisms, their rack-to-retail margins suggest that each of the markets navigated broad changes in the industry (like the introduction of CFR) with some consistency in terms margin impact. Again, this provides some assurance of relative market stability and indicates some level of competition in each of their respective rack markets, despite differences and shifts in relative rack prices and increased disparities with NYH prices.

In Signal's view, a rack-based benchmark clearly delivers the best balance of potential benefits to risks. It not only captures the direct impact of CFR compliance costs on primary suppliers, but also how those costs get embedded in the prices secondary suppliers and retailers pay for regulated fuels. In addition, a rack-based benchmark indirectly addresses several other issues that could challenge effective fuel price regulation under an NYH-based benchmark approach. Specifically, product formulation, winter blending of distillates, and the relevance of the chosen NYH benchmark price reporting agencies and price assessments. There is considerable evidence that PEI's rack-based approach has enabled it to successfully mitigate the impacts of these issues, which so often required additional regulatory intervention in other NYH-based benchmark jurisdictions.

The potential risks or drawbacks associated with the rack-based benchmark approach, such as whether the rack prices are sufficiently market-derived and competitive, price transparency, and whether the markets offer too much latitude to manipulate pricing, are not evident in our current market assessment and (in our view) are sufficiently manageable on a go-forward basis with general market monitoring and basic mitigation measures.

Recommendation(s):

We recommend that the Commission continue using a rack-based benchmark, without changes to its current approach. The rack-based benchmark has clearly demonstrated an effective balance between benefits and manageable risks, and has been a critical tool in meeting its regulatory objectives.

Wholesale Margin Review

When PEI's benchmark shifted from NYH to rack (2006), they decided to maintain their motor fuel[34] wholesale margins at 5 cents per litre, despite acknowledging that this move required redefining the scope of wholesale activities that would make up the wholesale margin under a rack-based benchmark system.

An NYH-based benchmark generally requires consideration of both primary and secondary wholesale functions, as those steps occur downstream of the benchmark price in the transactional value chain. In contrast, a rack-based benchmark need not consider the primary wholesale function in its wholesale margin setting because the primary supply function occurs upstream of the benchmark; all costs (and other items such as return on capital) associated with primary supply are (by definition) included in the rack price that forms the benchmark.

In the most recent review of wholesale margins in 2023, the Commission's consultant[35] reviewed data submitted by four secondary wholesalers and concluded that, while the data was not robust enough to be considered representative of the industry, the results did show that average costs were in a range that indicates that a five-cent-per-litre margin remained just and reasonable. Our assumption, and a fundamental basis for our approach in this review, is that this finding is "correct," and that our focus is on identifying what has changed since the previous review[36] to support any recommendation to amend current margin levels.

Regarding this review, wholesalers were asked to provide data from 2021 to 2025 (inclusive) on the wholesaling of regulated products in PEI. Specifically, we requested that wholesalers provide:

1. Sales volumes by year and separated by product type (gasoline, diesel, etc.)
2. Separation of volumes by level of supply (primary vs secondary).
3. Acquisition costs (or rack discount) by product type and by year.
4. Detailed costs associated with the wholesaling of regulated products in PEI by year. We provided a template that broke these costs down into defined components, allowing for detailed reporting and analysis by specific cost category.
5. Any other relevant information regarding the wholesale of regulated fuels in PEI between 2021 (the last year considered in the most recent review of wholesale margins in PEI) and 2025.

In all, eight secondary wholesalers provided data to Signal, including submissions from a broadly representative mix of wholesale market participants. The combined volume of regulated products sold among the participants represents roughly 72 percent of all IRAC-reported wholesale volumes

[34] Gasoline and diesel.

[35] Gardner Pinfold.

[36] This approach differs from a “zero-based” approach that looks to build up a reasonable margin from no baseline assumptions of margin levels, which generally requires significantly more detailed and robust information than can reasonably be supplied, detailed assessments of returns on capital benchmarked against industry averages, and ultimately requires a more stringent threshold to validate the results of the analysis. This approach is less likely to deliver a sufficiently supported recommendation in the context of a review like this.

between 2021 and 2025, and, in our view, is a broadly representative sample of the PEI wholesale market.

In our analysis of submitted data, we looked at two primary factors in evaluating the need for changes to the current wholesale margins:

1. Operating cost factors - how the costs associated with fuel wholesaling have changed since 2021.

2. Acquisition cost relative to the benchmark price - how acquisition costs of regulated products have changed for wholesalers of regulated fuel relative to the Commission's chosen benchmark price since 2021.

Again, the primary assumption underpinning our approach to analyzing wholesaler-submitted data was that the decision on wholesale margins rendered in 2023 (based on 2021 data) was "correct" and "fair," and that we should focus primarily on what has changed.

Changes in either of these listed factors can raise or lower the available margin for wholesalers operating in PEI. For example, a rise in operating costs could pressure existing margins and lower (or eliminate) a wholesaler's ability to generate a reasonable return on their business. It is fair to say that if such a scenario were evident in the broader wholesale market in PEI, it could warrant an adjustment to the wholesale margin to restore that ability to generate a reasonable return.

In addition, if wholesaler acquisition costs shift relative to the benchmark price used in the regulatory formula (which would show up as a widening gap between the benchmark price and the wholesaler acquisition cost), this can potentially impact the margin available to wholesalers. This change means wholesalers may buy at a higher relative acquisition price, but are constrained in their ability to pass through that increase because the regulated retail prices are fixed to the benchmark price. It should also be fair (in the above scenario) to adjust wholesale margins to restore the available margin after adjusting for all other factors.

Our methodology evaluated the available data and recommended margin adjustments based on operating cost factors and the gap between acquisition costs and benchmark prices. We considered these factors independent, meaning the recommendations from each analysis should be additive, and the recommended adjustments from each analysis would be combined in our final recommendation.

ANALYSIS OF OPERATING COSTS

We asked wholesalers in PEI to provide a breakdown of costs incurred in fuel wholesaling between 2021 and 2025[37]. We requested a breakdown of costs into components, as per the provided template, to allow categorization into standard items such as repairs and maintenance, wages and salaries, among others.

[37] We asked for this information in late 2025, meaning not all were able to provide complete 2025 data, but provided YTD 2025 data with an explanation of the period covered by the data provided. Because we converted all data to a cent-per-litre measure, including partial-year data should not materially skew the comparative results.

Six of the eight secondary wholesalers who submitted data provided relevant cost data for the entire evaluation period. A summary of the information provided includes:

- All participants who provided data were categorized into the cost buckets as defined in the supplied template (wages and salaries, repair and maintenance, operational costs, rent/building/insurance, property tax, utilities and telephone, vehicle and haulage costs, capital costs/depreciation, and other expenses).

- Some submissions provided additional qualitative commentary on how specific costs have changed over the evaluation period. This qualitative information was used to validate submissions and inform our analytical approach, but was not included in our cost data calculations.

- One of the eight secondary suppliers chose not to provide operational cost data, and another provided cost data that covered only a small portion of the evaluation period. Neither of these submissions was ultimately included in our operating cost calculations.

Our process of assessing and analyzing cost data began by evaluating data quality and identifying any apparent anomalies. We followed up with data providers to clarify or explain any issues we identified. We relied on our understanding of the wholesale business (and the various forms it can take) and our market knowledge to determine the reasonableness and applicability of the submitted data. Regarding cost data, we detected no significant data quality issues warranting outright rejection, and all submissions that included data for the entire evaluation period were deemed suitable for further analysis.

Our processes and detailed analysis consisted of the following steps, findings, and assumptions:

1. We removed or adjusted any costs that were clearly outside the scope of supporting fuel wholesaling or fell under another area of the value chain.

2. We reviewed costs within each submission to ensure consistent handling throughout the evaluation period. An example would be including a specific cost in one year and, in subsequent years, either excluding it or modifying the methodology used to calculate it. This step ensured that cost changes over time were truly an "apples-to-apples" comparison[38].

3. Any reported costs shared with other non-wholesale business functions were allocated in accordance with any guidance provided by the participant, or, in the absence of such guidance, based on the volume of sales by business function.

4. We converted all costs to a cent-per-litre (CDN$) figure using the volume data provided by each participant. We combined all fuel types[39] and pro-rated costs (where necessary) to apportion costs for handling regulated or non-regulated fuels.

[38] This would not apply to legitimately new costs that may have arisen over the evaluation period.
[39] The assumption is that most of the reported costs do not differ materially between the handling of different regulated fuels and so a blended figure is used to simplify the calcuation of aggregated cost impacts.

5. We reviewed the subsequent figures to assess their reasonability based on each company's size and known area of involvement in the wholesale business in PEI. Participants have a range of sizes and are active in different areas of fuel wholesaling, so there would be some acceptable variation in per-litre costs. However, on average, cost levels aligned reasonably well with expectations based on historical margin levels. At this stage, all providers' data was deemed reasonable, and no other material adjustments were necessary.

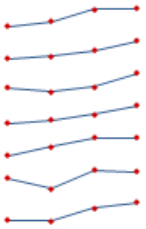
6. While cost levels varied between companies in any given year, the movement of each company's per-litre costs tended to be reasonably consistent over the evaluation period. It didn't fluctuate much from year to year and tended to trend relatively consistently over the evaluation period.

7. The average per-litre cost changes over the evaluation period were within a fairly narrow range, and the overall average change was reasonably aligned with general inflation levels[40] over the evaluation period. Our assessment of the data indicated that the industry's information provided reasonable results.

8. We calculated the per-litre change in costs by dividing aggregated cost data by aggregated fuel volumes to arrive at the combined cost impact for all companies over the entire evaluation period. A summary of the findings from our cost analysis is shown in Table 3.

Table 3: Average Change in Wholesale Operating Costs (2021 to 2025) in dollars per litre

Expenses and Operating Costs (CDN Dollars)	2021	2022	2023	2024	2025 (YTD)	Diff 2021 to 2025
Wages and Salaries	0.0141	0.0137	0.0147	0.0167	0.0169	0.0027
Repair and Maintenance	0.0016	0.0016	0.0019	0.0024	0.0032	0.0016
Operational Costs	0.0033	0.0039	0.0035	0.0040	0.0053	0.0020
Rent, Building, Insurance, Property Tax	0.0014	0.0014	0.0016	0.0018	0.0021	0.0007
Utilities/Telephone	0.0005	0.0005	0.0006	0.0007	0.0007	0.0003
Other Expenses	0.0140	0.0144	0.0133	0.0151	0.0149	0.0009
Total Costs	0.0349	0.0356	0.0356	0.0407	0.0431	0.0083



Recommendation(s):

Based on submitted data from wholesalers and our subsequent analysis, total operating costs related to fuel wholesaling in PEI increased over the evaluation period (2021 to 2025). The average change was an increase of 0.8 cents per litre. As a result, we recommend increasing the wholesale margin component for all regulated motor fuels from 5.0 cents per litre to 5.8 cents per litre.

[40] 2021 to 2025 was a period of above-average inflation in Canada. The Bank of Canada Inflation Calculator showed the national average consumer price index (CPI) rose from 138.9 to 163.0 (measured in 2002 dollars). This represents a 17.4 percent increase.

ANALYSIS OF ACQUISITION COSTS RELATIVE TO BENCHMARK PRICES

Our request to wholesalers in PEI included their acquisition costs for regulated motor fuels over the evaluation period. We also accepted contracted rack discounts relative to their identified rack price basis as a proxy for actual acquisition costs.

Only three of the eight parties that submitted information for this matter provided relevant acquisition cost data and/or rack discount data for the evaluation period and at least one regulated product. A summary of the data provided includes:

- Only two wholesalers provided acquisition data for the entire evaluation period. One wholesaler could provide only partial data for the evaluation period. All in, the providers represent roughly 25 percent of known wholesale gasoline/diesel volumes.

- All participants submitted calculated acquisition cost data rather than providing their discount/premium to the rack.

- Several participants provided detailed data/notes to show whether their submitted acquisition cost data included or excluded items such as fuel tax charges. We based our decision to adjust any of the provided acquisition costs on guidance or feedback from participants and our understanding of the wholesale industry pricing structure in PEI. There were several submissions related to acquisition cost that required manual adjustments and recalculations to standardize the information and ensure an "apples-to-apples" comparison between wholesalers.

As with the analysis of operating costs, our process for assessing acquisition cost data began with a thorough assessment of data quality and the identification of any anomalies. We followed up with participants to seek clarification where we detected issues.

Our process and analysis consisted of the following steps, findings, and assumptions:

1. For those who provided aggregate fuel cost and volume data, we calculated the average annual costs per litre for RUL-grade[41] gasoline and diesel. For those who provided calculated acquisition costs, we aggregated this data from its source and used it in our analysis.

2. We focused our analysis on how the differential between acquisition cost and rack[42] changed between 2021 and 2025.

3. Nearly all acquisition costs were relatively consistent between companies within a given year, with an expected range due to relative size (based on sales volume) and relative position in the supply chain. However, we also observed that the differentials (and their ranges among the parties) fluctuated inconsistently from year to year and did not necessarily follow consistent trends. For this reason, we did not feel comfortable extrapolating the results for the provider that could not report acquisition costs for the entire evaluation period.

[41] We focused solely on regular (RUL) grade gasoline to avoid problems with different weighted cost figures based on varying percentages of sales reported for other grades.
[42] Using Kalibrate average rack price for Charlottetown.

4. We calculated the average annual differential between each company's reported acquisition costs for gasoline and diesel and the average Charlottetown rack price for each regulated product (as reported by Kalibrate Canada).

5. As with our analysis of operating costs, we calculated a volume-weighted average[43] change in adjusted differentials between acquisition costs and benchmark prices from 2021 to 2025.

6. The observed changes in the differential between acquisition costs and benchmark prices were relatively small and were (directionally) disparate between both gasoline and diesel.

It was clear that the supporting data for our acquisition-cost analysis were far less robust, and the analytical results showed greater variance than those for our operating-cost analysis. Several manual adjustments were required to normalize the provided information, thereby reducing the reliability of the results. In our view, the data sample is not a representative cross-section of industry participants. It lacks sufficient market coverage to support a recommendation based on observed changes in acquisition costs relative to the rack-based benchmark.

Recommendation(s):

Given the lack of reliable acquisition cost data submitted by wholesalers, we recommend no change related to the shift in acquisition costs relative to benchmark pricing.

SUMMARY OF RECOMMENDATIONS BASED ON WHOLESALE EVIDENCE

As stated herein, our analysis of submitted data focused on operating cost factors and acquisition costs to benchmark price differentials and evaluated the need to change the current wholesale margins. Changes in either factor can impact the available margin for wholesalers operating in PEI. We considered these factors independent, meaning the recommendations from our analysis of each would be additive, and the recommended adjustments from each factor should be summed to form our final recommendation. Table 4 summarizes the recommended adjustments for the regulated products considered in this review.

Table 4: Summary of Recommended Changes to Wholesale Margins in PEI

	Change in Operating Costs (cpl)	Change in Acquisition Cost to Benchmark Differential (cpl)	Total Recommended Wholesale Margin Adjustment (cpl)
Gasoline	0.8 cents per litre	N/A	0.8 cents per litre
Diesel	0.8 cents per litre	N/A	0.8 cents per litre

[43] Volume weights were calculated using product-specific volumes between 2021 and 2025.

Furnace Margin Review

For furnace oil and commercial fuel oils, PEI has effectively treated wholesale and retail margins as a combined whole, since market participants who buy, distribute, and sell furnace oil commercially generally perform aspects of both wholesale and retail functions. These functions exist downstream of the benchmark (rack) price.

In the most recent review of furnace oil margins in 2023, the Commission's consultant concluded that there was sufficient information to support a combined wholesale/retail margin of 23.1 cents per litre for furnace oil operators. Our assumption, and a fundamental basis for our approach in this review, is that this finding is "correct" and that our focus is on identifying what has changed since the previous review to support any recommendation to amend current margin levels.

One aspect that differed for furnace oil margins from the Commission's handling of other margins in the 2023 review was the effective extrapolation to include 2022 in their margin setting, along with a clear recommendation to use 2022 as the base year in the following review. On that basis, we have used 2022 (not 2021) as the base year for our furnace margin review.

For this review, operators were asked to provide data on the sale of regulated products in PEI from 2022 to 2025 (inclusive). Specifically, we requested that operators provide:

1. Sales volumes by year and separated by product type.
2. Separation of volumes by functional area of operation.
3. Acquisition costs (or rack discount) by product type and by year.
4. Detailed costs associated with the sale of regulated products in PEI by year. We provided a template that broke these costs down into defined components, allowing for detailed reporting and analysis by specific cost category.
5. Any other relevant information regarding the sale of regulated fuels in PEI between 2022 (the last year considered in the most recent review of wholesale margins in PEI) and 2025.

In all, six furnace oil operators provided data to Signal, including submissions from a fairly broad mix of market participants. The combined volume of regulated products sold among the participants represents over 70 percent of all IRAC-reported commercial fuel oil volumes between 2022 and 2025, and, in our view, is a representative sample of the PEI market for this product.

In our analysis of submitted data, we again looked at two primary factors in evaluating the need for changes to the current furnace oil margins:

1. Operating cost factors - how the costs associated with the sale of furnace oil have changed since 2022.

2. Acquisition cost relative to the benchmark price - how acquisition costs of regulated products have changed for furnace oil operators relative to the Commission's chosen benchmark price since 2022.

The primary assumption underpinning our approach to analyzing operator-submitted data was that the decision on furnace oil margins rendered in 2023 was "correct" and "fair," and that we should focus primarily on what has changed since that decision.

Our methodology evaluated the available data and recommended margin adjustments based on operating cost factors and the gap between acquisition costs and benchmark prices. We considered these factors independent, meaning the recommendations from each analysis should be additive, and the recommended adjustments from each analysis would be combined in our final recommendation.

ANALYSIS OF OPERATING COSTS

We asked furnace oil operators in PEI to provide a breakdown of costs incurred in their operations between 2022 and 2025. We requested a breakdown of costs into components, as per the provided template, to allow categorization into standard items such as repairs and maintenance, wages and salaries, among others.

Six furnace operators submitted data that provided relevant costs for the entire evaluation period. A summary of the information provided includes:

- All participants who provided data were categorized into the cost buckets as defined in the supplied template (wages and salaries, repair and maintenance, operational costs, rent/building/insurance, property tax, utilities and telephone, credit card fees or surcharges, vehicle and haulage costs, capital costs/depreciation, and other expenses).

- Some submissions provided additional qualitative commentary on how specific costs have changed over the evaluation period. This qualitative information was used to validate submissions and inform our analytical approach, but was not included in our cost data calculations.

Our process of assessing and analyzing cost data began by evaluating data quality and identifying apparent anomalies. We followed up with data providers to clarify or explain any issues we identified. We relied on our understanding of the commercial fuel oil and furnace oil business (and the various forms it can take) and our market knowledge to determine the reasonableness and applicability of the submitted data. Regarding cost data, we detected no significant data quality issues warranting outright rejection, and all submissions were deemed suitable for further analysis.

Our processes and detailed analysis consisted of the following steps, findings, and assumptions:

1. We removed or adjusted any costs that were clearly outside the scope of supporting furnace oil/commercial fuel oil sales or fell under another area of the value chain.

2. We reviewed costs within each submission to ensure consistent handling throughout the evaluation period. An example would be including a specific cost in one year and, in subsequent years, either excluding it or modifying the methodology used to calculate it. This step ensured that cost changes over time were truly an "apples-to-apples" comparison.

3. Any reported costs shared with non-furnace/commercial fuel oil business functions were allocated in accordance with guidance provided by the participant, or, without supplemental guidance, based on the volume of sales separated by business function.

4. We converted all costs to a cent-per-litre (CDN$) figure using the volume data provided by each participant. We pro-rated costs (where necessary) to apportion costs for handling regulated and non-regulated fuels.

5. We reviewed the subsequent figures to assess their reasonability based on each company's size and known area of involvement in the furnace business in PEI. Participants have a range of sizes and are active in different areas of the furnace oil business, so there would be some acceptable variation in per-litre costs. However, on average, cost levels aligned reasonably well with expectations based on historical margin levels. At this stage, all providers' data was deemed reasonable, and no other material adjustments were necessary.

6. While cost levels varied between companies in any given year, the movement of each company's per-litre costs tended to be reasonably consistent over the evaluation period. It didn't fluctuate much from year to year and tended to trend relatively consistently over the evaluation period.

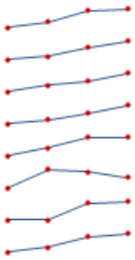
7. The average per-litre cost changes over the evaluation period were within a fairly narrow range, and the overall average change was slightly above reported inflation levels[44] . Our assessment of the data indicated that the industry-supplied information delivered reasonable results.

8. We calculated the per-litre change in costs by dividing aggregated cost data by aggregated fuel volumes to arrive at the combined cost impact for all companies over the entire evaluation period. A summary of the findings from our cost analysis is shown in Table 5.

[44] 2022 to 2025 was a period of above-average inflation in Canada. The Bank of Canada Inflation Calculator showed the national average consumer price index (CPI) rose from 146.8 to 163.0 (measured in 2002 dollars). This represents an 11 percent increase.

Table 5: Average Change in Furnace Oil Operating Costs (2022 to 2025) in dollars per litre

Expenses and Operating Costs (CDN Dollars)	2022	2023	2024	2025 (YTD)	Diff 2022 to 2025
Wages and Salaries	0.0802	0.0838	0.0913	0.0924	0.0121
Repair and Maintenance	0.0102	0.0117	0.0153	0.0181	0.0080
Operational Costs	0.0126	0.0135	0.0141	0.0152	0.0025
Rent, Building, Insurance, Property Tax	0.0039	0.0045	0.0056	0.0069	0.0030
Utilities/Telephone	0.0013	0.0019	0.0026	0.0027	0.0014
Credit Card Fees or Surcharges	0.0028	0.0046	0.0043	0.0038	0.0009
Other Expenses	0.0374	0.0376	0.0452	0.0461	0.0086
Total Costs	0.1486	0.1576	0.1785	0.1852	0.0366



Recommendation(s):

Based on submitted data from furnace oil operators and our subsequent analysis, total operating costs related to furnace oil operations in PEI increased over the evaluation period (2022 to 2025). The average change was an increase of 3.7 cents per litre. As a result, we recommend increasing the combined wholesale/retail margin component for regulated furnace oil from 23.1 cents per litre to 26.8 cents per litre.

ANALYSIS OF ACQUISITION COSTS RELATIVE TO BENCHMARK PRICES

Our request to furnace oil operators in PEI included their acquisition costs for regulated furnace oil and heating fuel over the evaluation period. We also accepted contracted rack discounts relative to their identified rack price basis as a proxy for actual acquisition costs.

Only two of the six parties that submitted operating cost information for this matter provided relevant and usable acquisition cost data or rack discount data for the evaluation period. A summary of the data provided includes:

- Only two furnace operators provided acquisition data for the entire evaluation period. One other furnace oil operator provided only partial data for the evaluation period, and there were obvious issues with the data that were not sufficiently resolved through the follow-up process. All in, these providers represented roughly 12 percent of known furnace oil and commercial fuel oil volumes.

- All participants who provided acquisition cost data submitted their calculated acquisition costs rather than their discount/premium to the rack.

- Some participants provided detailed data/notes to show whether their submitted acquisition cost data included or excluded items such as fuel tax charges. We based our decision to adjust any of the provided acquisition costs on guidance or feedback from participants and our understanding of the industry and its business functions. There were submissions related to acquisition cost that required manual adjustments and recalculations to standardize the information and ensure an "apples-to-apples" comparison between operators.

As with the analysis of operating costs, our process for assessing acquisition cost data began with a thorough assessment of data quality and the identification of any anomalies. We followed up with participants to seek clarification where we detected issues.

Our process and analysis consisted of the following steps, findings, and assumptions:

1. For those who provided aggregate fuel cost and volume data, we calculated the average annual costs per litre for furnace oil. For those who may have provided calculated acquisition costs, we aggregated this data from its source and used it in our analysis.

2. We focused our analysis on how the differential between acquisition cost and rack[45] changed between 2022 and 2025.

3. Nearly all usable acquisition costs were reasonably consistent between companies within a given year, with an expected range. However, we also observed that the differentials (and their ranges among the parties) fluctuated inconsistently from year to year and did not necessarily follow consistent trends. For this reason, we did not feel comfortable extrapolating the results for the provider that could not report acquisition costs for the entire evaluation period.

[45] Using Kalibrate average rack price for Charlottetown.

4. We calculated the average annual differential between each company's reported acquisition costs for furnace oil and the average Charlottetown rack price for the regulated product (as reported by Kalibrate Canada).

5. As with our analysis of operating costs, we calculated a volume-weighted average change in adjusted differentials between acquisition costs and benchmark prices from 2022 to 2025.

In our view, the data sample is not a representative cross-section of industry participants. It lacks sufficient market coverage to support a recommendation based on observed changes in acquisition costs relative to the rack-based benchmark.

Recommendation(s):

Given the lack of reliable acquisition cost data submitted by furnace operators, we recommend no change related to the shift in acquisition costs relative to benchmark pricing.

Table 6 summarizes the recommended adjustments for the regulated products considered in this review.

Table 6: Summary of Recommended Changes to Furnace Oil Margins in PEI

	Change in Operating Costs (cpl)	Change in Acquisition Cost to Benchmark Differential (cpl)	Total Recommended Furnace Oil Margin Adjustment (cpl)
Furnace	3.7 cents per litre	N/A	3.7 cents per litre

Retail Margin Review – Motor Fuel

Retail motor fuels in PEI have a minimum and a maximum margin, with retailers free to price anywhere within that min/max range. Regulated retail margins are meant to cover a retailer's fuel-related costs and their return on capital. However, the costs incurred by fuel retailers are often split between fuel and non-fuel offerings. The precise allocation between fuel and non-fuel costs is often difficult to define in a review such as this, as allocations would likely need to be revenue-based, and we do not have access to a breakdown of retailers' fuel vs. non-fuel revenues. It is unlikely that the allocations would change meaningfully over time, so we have assumed that margin levels were set "correctly" in previous reviews based on the proper allocations. Our focus is on what has changed over the evaluation period, and we would use a percentage change[46] to avoid issues with allocating fuel and non-fuel costs.

In the most recent review of wholesale margins in 2023, the Commission's consultant recommended maintaining the Commission's interim increase[47] in the retail margin for motor fuels to a minimum of 7.0 cents per litre and a maximum of 8.0 cents per litre for self-serve, and a minimum of 7.0 cents per litre and a maximum of 10.5 cents per litre for full-serve. This recommendation was based on their analysis of costs from a representative sample of retailer-supplied data.

Again, our assumption, and a fundamental basis for our approach in this review, is that this finding is "correct," and that our focus is on identifying what has changed since the previous review to support any recommendation to amend current margin levels.

Figures 12 and 13 compare rack-to-retail margins for gasoline and diesel in Charlottetown with those in other regional regulated and unregulated markets. While PEI's margins are relatively higher than most of the other markets, this does not necessarily imply an issue with the regulated margin levels. Many factors influence "margin need" among retailers across markets, including average site throughputs and non-petroleum revenue levels[48]. The relative stability in the Charlottetown rack-to-retail margins in these Figures may indicate that the regulations have effectively handled some of the more complex issues impacting the fuel market and margins over this period[49].

One aspect that differed for retail margins from the Commission's handling of wholesale margins in the 2023 review was their effective extrapolation of costs out to include 2022 in their justification of the margin recommendation, along with a supplemental recommendation to use 2022 as the base year in the following review. On that basis, we have used 2022 (not 2021) as the base year to measure cost changes.

[46] As opposed to the cent-per-litre changes used for other margins we analyzed.

[47] August 2022 decision.

[48] Lower average site throughput and lower non-petroleum revenue (either C-store or other tertiary offering) usually result in a higher fuel margin needed to offset costs and provide a return.

[49] This stability can also be seen as a function of the regulatory design in PEI, which employs a narrow min/max retail price setting structure that also utilizes a forward averaging technique designed to effectively stabilize margins for industry participants.

Regarding this review, retailers were asked to provide data from 2022 to 2025 (inclusive) on retailing regulated products in PEI. Specifically, we requested that retailers provide:

1. Sales volumes by year and separated by product type (gasoline, diesel, etc.)
2. Separation of volumes by functional area of operation.
3. Acquisition costs (or rack premium/discount) by product type and by year.
4. Detailed costs associated with the retailing of regulated products in PEI by year. We provided a template that broke these costs down into defined components, allowing for detailed reporting and analysis by specific cost category.
5. Any other relevant information regarding the retailing of regulated fuels in PEI between 2022 (the last year considered in the most recent review of wholesale margins in PEI) and 2025.

In all, we collected retail cost data from eight unique marketers/operators, which collectively operated 27 retail fuel sites in PEI[50]. The aggregated volume from the 27 reported sites represents just under 40 percent of the IRAC-reported provincial retail volume. The average per-site volume in the data we collected was roughly 3.2 million litres annually, which generally aligns with the reported provincial averages over the evaluation period[51]. In our view, the submissions formed a sufficiently representative sample of market participants, including sufficient diversity among operator/marketer types, retail brands, and geographic distribution across PEI.

In our analysis of submitted data, we again looked at two primary factors in evaluating the need for changes to the current wholesale margins:

1. Operating cost factors - how the costs associated with fuel retailing have changed since 2022.

2. Acquisition cost relative to the benchmark price - how acquisition costs of regulated products have changed for retailers of regulated fuel relative to the Commission's chosen benchmark price since 2022.

Changes in either of these listed factors can raise or lower the available margin for retailers in PEI. Our methodology evaluated the available data and recommended margin adjustments based on operating cost factors and the gap between acquisition costs and benchmark prices. We considered these factors independent, meaning the recommendations from each analysis should be additive, and the recommended adjustments from each analysis would be combined in our final recommendation.

[50] This represents roughly one-third of the known retail outlets in PEI, according to the most recent retail site census published by Kalibrate Canada (2024).

[51] Based on a calculation using IRAC-supplied volume data and site counts from the Kalibrate retail site census.

ANALYSIS OF OPERATING COSTS

We asked fuel retailers in PEI to provide a breakdown of costs incurred in their operations between 2022 and 2025. We requested a breakdown of costs into components, as per the provided template, to allow categorization into standard items such as repairs and maintenance, wages and salaries, among others.

All eight retail site operators submitted data that provided relevant cost data for the sites in their networks over the entire evaluation period. A summary of the information provided includes:

- All participants who provided data were categorized into the cost buckets as defined in the supplied template (wages and salaries, repair and maintenance, operational costs, rent/building/insurance, property tax, utilities and telephone, credit card fees or surcharges, vehicle and haulage costs, capital costs/depreciation, and other expenses).

- Some submissions provided additional qualitative commentary on how specific costs have changed over the evaluation period. This qualitative information was used to validate submissions and inform our analytical approach, but was not necessarily a part of our cost data calculations.

Our process of assessing and analyzing cost data began by evaluating data quality and identifying any apparent anomalies. We followed up with data providers to clarify or explain any issues we identified. We relied on our understanding of the retail fuel business (and the various forms it can take) and our market knowledge to determine the reasonableness and applicability of the submitted data. Regarding cost data, we detected no significant data quality issues warranting outright rejection, and all submissions were deemed suitable for further analysis.

As with the other margins we reviewed as a part of this project, our processes and detailed analysis consisted of the following steps, findings, and assumptions:

1. We removed or adjusted any costs that were clearly outside the scope of supporting fuel retailing or fell under another area of the value chain.

2. We reviewed costs within each submission to ensure consistent handling throughout the evaluation period. An example would be including a specific cost in one year and, in subsequent years, either excluding it or modifying the methodology used to calculate it. This step ensured that cost changes over time were truly an "apples-to-apples" comparison.

3. We allocated any reported shared costs from other (non-retail) business functions according to guidance provided by the participant or, in the absence of supplemental guidance, based on each business function's sales volume.

4. We converted all costs to a cent-per-litre (CDN$) figure using the volume data provided by each participant. We pro-rated costs (where necessary) to apportion costs for handling regulated and non-regulated fuels.

5. We reviewed the subsequent figures to assess their reasonability based on each company's size and known area of involvement in the retail business in PEI. Retail networks and their

sites can vary significantly in size and business model. They may be active in different areas of the retail fuel business, so there would be some acceptable variation in per-litre costs. However, on average, cost levels aligned reasonably well with expectations based on historical margin reviews and analysis.

6. Despite reported (average) costs being higher than regulated margins, we had to consider the unallocated impact of non-petroleum costs on that comparison. For this reason, our approach to retail margins was to apply a percentage change in operating costs to the current retail margins, rather than simply applying the cent-per-litre change as was done with wholesale and furnace margins. Using the cent-per-litre change would likely overstate the impact of fuel-related cost changes, as unallocated non-petroleum costs would still be included in that figure.

7. At this stage, all providers' data was deemed reasonable, and no other material adjustments were necessary.

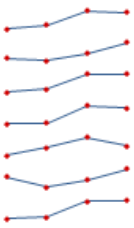
8. While cost levels varied between companies in any given year, the movement of each company's per-litre costs tended to be reasonably consistent over the evaluation period. It didn't fluctuate much from year to year and tended to trend relatively consistently over the evaluation period.

9. The average per-litre cost changes over the evaluation period were within a fairly narrow range, and the overall average change was slightly above reported inflation levels[52] . Our assessment of the data indicated that the industry-supplied information delivered reasonable results.

10. We calculated the per-litre change in costs by dividing aggregated cost data by aggregated fuel volumes to arrive at the combined cost impact for all companies over the entire evaluation period. A summary of the findings from our cost analysis is shown in Table 7.

Table 7: Average Change in Retail Site Operating Costs (2022 to 2025) in dollars per litre

Expenses and Operating Costs (CDN Dollars)	2022	2023	2024	2025 (YTD)	%CH
Wages and Salaries	0.054	0.057	0.067	0.066	22.4%
Repair and Maintenance	0.007	0.007	0.008	0.011	45.7%
Rent, Building, Insurance, Property Tax	0.011	0.012	0.015	0.015	35.8%
Utilities/Telephone	0.005	0.006	0.006	0.006	15.9%
Credit Card Fees or Surcharges	0.015	0.016	0.017	0.016	9.4%
Other Expenses	0.022	0.020	0.022	0.024	7.1%
Total Costs	0.114	0.117	0.136	0.138	20.2%



Total costs reported by industry increased by 20 percent between 2022 and 2025. Again, we used percentages rather than cent-per-litre changes because the reported base cost amounts are well above regulated retail margin levels, which result from the apportionment of reported costs between

[52] 2022 to 2025 was a period of above-average inflation in Canada. The Bank of Canada Inflation Calculator showed the national average consumer price index (CPI) rose from 146.8 to 163.0 (measured in 2002 dollars). This represents an 11 percent increase.

the petroleum and non-petroleum parts of their retail businesses. This general approach is similar to previous retail margin reviews conducted in PEI.

Recommendation(s):

Based on submitted data from retail fuel operators and our subsequent analysis, total operating costs related to retail fuel operations in PEI increased over the evaluation period (2022 to 2025). We recommend increasing the retail margins from 7.0 cents per litre (min) and 8.0 cents per litre (max) to 8.4 cents per litre (min) and 9.6 cents per litre (max), respectively, to reflect the observed percentage increase in operational costs over the evaluation period.

ANALYSIS OF ACQUISITION COSTS RELATIVE TO BENCHMARK PRICES

Our request to retail fuel site operators in PEI included their acquisition costs for regulated motor fuels over the evaluation period. We also accepted contracted rack differentials relative to their identified rack price basis as a proxy for actual acquisition costs.

Only one of the surveyed participants provided relevant and usable acquisition cost data and/or rack discount data for the evaluation period.

As with the analysis of operating costs, our process for assessing acquisition cost data began with a thorough assessment of data quality and the identification of any anomalies. We followed up with participants to seek clarification where we detected issues.

It was clear that a single data provider did not constitute a representative cross-section of industry participants and lacked sufficient market coverage to support a recommendation based on observed changes in acquisition costs relative to the rack-based benchmark. At this point, we abandoned any further assessment of changes to the differential between retail acquisition cost and the benchmark.

Recommendation(s):

Given the lack of reliable acquisition cost data submitted by retail operators, we recommend no change related to the shift in acquisition costs relative to benchmark pricing.

Table 8 summarizes the recommended adjustments for the regulated products considered in this review.

Table 8: Summary of Recommended Changes to Retail Motor Fuel Margins in PEI

	Change in Operating Costs (%)	Change in Acquisition Cost to Benchmark Differential (cpl)	Total Recommended Retail Margin Adjustment (cpl)
Gasoline and Diesel	20.2 percent	N/A	Minimum retail margin increases 1.4 cents per litre, and maximum retail margin increases 1.6 cents per litre.

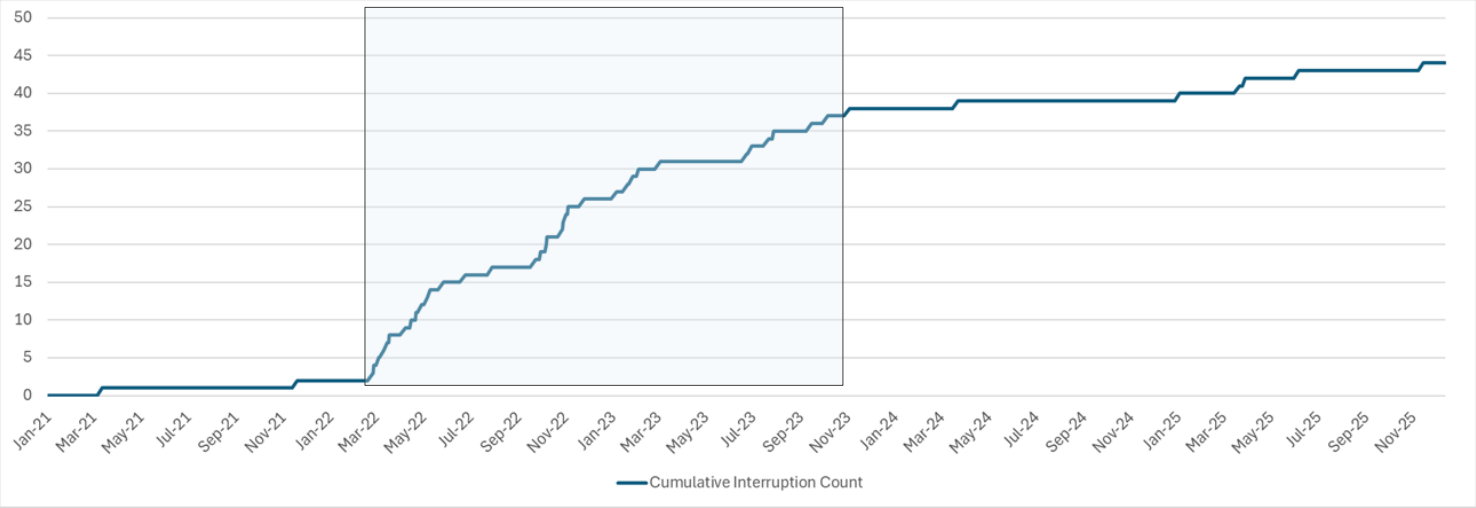
Interruption Policy Review

Interruption policies are in place in all four Atlantic Provinces that regulate fuel prices. These policies exist to allow regulatory pricing changes outside their normal price-setting cadence when there is increased price volatility in fuel markets. They ensure regulated pricing reflects current market conditions and protect against large pricing swings that could bring the underlying product prices meaningfully out of line with regulatory pricing, thereby potentially impacting the fairness of consumer pricing, industry margins, or threatening the security of supply.

Interruption policies can take many forms, including different approaches, structures, practical applications, thresholds, and triggers. Most provinces monitor pricing in underlying product markets such as NYH or rack, and have their own approaches and thresholds for triggering an off-schedule regulated price change, whether overt and prescribed by the act/regulations or based on internal and discretionary criteria.

PEI's Commission approaches its interruption policy with a largely discretionary approach, in which it monitors markets and identifies (presumably based on internal thresholds) price movements warranting an interruption to the normal regulatory cadence. In our analysis of the Commission's price-setting schedule since 2021, we identified that roughly 45 interruptions occurred between January 2021 and December 2025. Figure 14 shows a cumulative count of price-setting interruptions over the evaluation period.

Figure 14: Cumulative count of unscheduled interruptions to regulated pricing in PEI (2021 to 2025)



Source: IRAC

Most of the observed interruptions occurred during an extended period of elevated price volatility (highlighted in blue in Figure 14) – primarily in distillate markets - following the Russian invasion of Ukraine and the market disruptions that followed. This observation can demonstrate that the interruption policy may be working as intended. In this case, the use of the interruption policy helped stabilize pricing and margins for PEI consumers and retailers, respectively, as the underlying markets

for petroleum products exhibited significant volatility, resulting in large intra-period[53] price movements and significant gaps between NYH and regional rack prices.

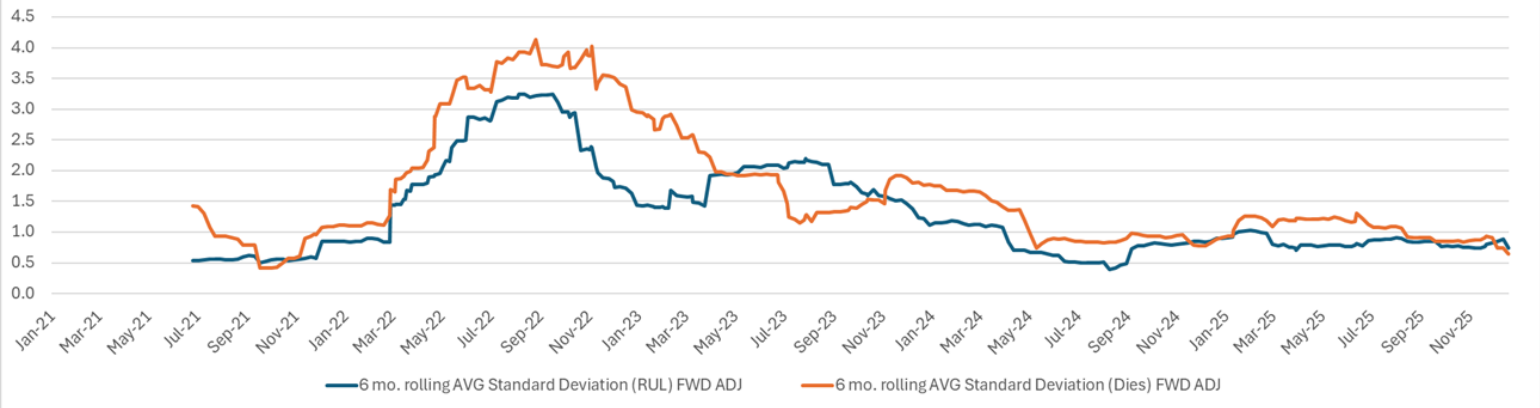
It is also notable that there were very few interruptions during long periods of relative market stability, both before and after the market instability caused by these geopolitical issues. This finding can also be viewed as evidence that the interruption policy may be working as intended, because interventions are generally rare during periods of lower price volatility.

Another way to assess the overall effectiveness of the interruption policy is to examine how forward averaging adjustments have moved, particularly during periods of relative price stability. Forward averaging in PEI's regulations essentially serves as a "balancing" variable to limit the long-term impact of intra-period price volatility on achieved margins. It does this by effectively maintaining a longer-term rolling average of daily "achieved" wholesale margins[54] by adjusting each period's regulated wholesale margin (using the forward-average adjustment) to keep the prescribed long-term margin levels stable.

With a functionally effective interruption policy, the absolute value of forward averaging adjustments would be expected to rise during periods of price volatility but would remain consistently lower during periods of relative price stability. However, if the interruption policy is not effective, either by not being triggered often enough or by triggering too often, there would likely be observable and material shifts in the values of forward averaging adjustments during periods of price stability as evidence for this type of over- or under-compensation. Effectively, in this scenario, larger adjustments would be needed to compensate for greater intra-period shifts in achieved margin, which would be increasingly skewed away from the prescribed regulatory margin.

To assess this, we examined the six-month rolling averages for the standard deviation of forward averaging adjustments for gasoline and diesel from 2021 to 2025. This analysis is shown in Figure 15.

Figure 15: Six-month rolling average of standard deviation of forward averaging adjustments from 2021 to 2025 (cents per litre)



Source: IRAC, Signal Calculations

[53] Within a given regulatory price-setting cycle.

[54] Based on differentials between rack benchmark and IRAC Base pricing.

In this analysis, periods of relative price stability[55] showed a remarkably stable rolling-average standard deviation of the forward averaging adjustment. This finding suggests that the interruption policy has been generally balanced in its use and effective in achieving regulatory objectives related to price and margin stability.

It appears that the current interruption policy is stabilizing margin impacts during periods of price volatility while having a limited impact during periods of relative price stability. This finding aligns with the best outcomes expected from this type of policy, and there does not appear to be cause for concern or justification for modifying the current approach to interruption policy in PEI.

Recommendation(s) :

The data and analysis suggest that the current interruption policy and methodology have been effective, and we suggest no changes.

[55] Those periods before and after the market impacts of the Russian invasion of Ukraine.

Propane Pricing Review

The Commission regulates propane prices under the Petroleum Products Act, setting maximum allowable prices for consumer and commercial propane deliveries. These prices are set on a two-week cycle, unlike other regulated fuels, which are changed more frequently. Given that price regulations in PEI are used to manage price volatility and protect consumers and industry from significant price and margin shifts, the need to set propane prices less frequently comes from the general understanding that propane prices are typically much more consistent and stable, and much less prone to the types of market turbulence often observed with motor fuels or other commercial heating fuels.

Additionally, there is far less publicly available information about commercial propane pricing and margins than for other regulated fuels. The general lack of information makes analyzing costs, margins, and prices much more difficult than what we were able to do with the other regulated fuels in this review. It also challenges any assessment of the effectiveness of PEI's regulatory approach or benchmarking of industry-provided information to assess the general health of the propane industry in PEI.

We did collect information from propane operators to assess changes in operating and acquisition costs, using the same effective methodology as for other regulatory fuels in this review. However, one of the main concerns that those operators communicated is that there have been no adjustments to margins or material amendments to the approach with propane over a much longer period than we are assessing in this review. Effectively, even if we can assess cost changes over the evaluation period in this review, any changes that occurred before that period, which the Commission or its consultants may not have fully assessed, will remain unaddressed.

This issue dovetails with some of the views expressed by the operators in our consultations, namely that propane may be reaching a point where it has been functionally neglected, or at least underserved, by the regulations and the Commission's lack of intervention regarding propane margins over the period it has been under regulation. Our review of previous regulatory orders and filed documentation in the Commission's archive did not find any related reviews or changes to the propane regulatory approach or margins, which may, to some extent, corroborate the industry's communicated concerns.

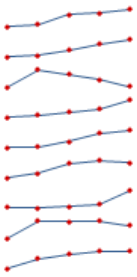
Similar to other margins reviewed in this study, we requested and received data from four general wholesalers of propane (consumer and commercial), which together represent roughly 40 percent of the IRAC-reported market volumes. While this sample may not have been as robust as other fuels/margins we reviewed, the data passed all validation efforts and reasonability checks[56] and, in our view, should be accepted as reasonably representative of the PEI propane market.

Table 9 presents a breakdown of the operational cost analysis for propane from 2021 to 2025.

[56] This validation and audit process was the same as what was outlined for the other fuels we reviewed.

Table 9: Average Change in Propane Operating Costs (2021 to 2025) in dollars per litre

Expenses and Operating Costs (CDN Dollars)	2021	2022	2023	2024	2025 (YTD)	Diff 2021 to 2025
Wages and Salaries	0.0941	0.0986	0.1178	0.1210	0.1286	0.0345
Repair and Maintenance	0.0095	0.0103	0.0138	0.0179	0.0207	0.0112
Operational Costs	0.0117	0.0173	0.0159	0.0141	0.0120	0.0003
Rent, Building, Insurance, Property Tax	0.0027	0.0032	0.0037	0.0044	0.0062	0.0036
Utilities/Telephone	0.0006	0.0007	0.0012	0.0020	0.0023	0.0016
Vehicle/Haulage Costs	0.0287	0.0344	0.0476	0.0517	0.0486	0.0199
Depreciation	0.0151	0.0146	0.0157	0.0171	0.0262	0.0110
Other Expenses	0.0048	0.0530	0.0494	0.0523	0.0407	0.0359
Total Costs	0.1673	0.2321	0.2652	0.2804	0.2853	0.1180



Our analysis of the data showed a 23% (11.8 cpl) increase in wholesale operational costs associated with propane sales between 2021 and 2025. This increase in costs is roughly in line with operational cost increases over this period for other operator types considered in this review (wholesale, retail motor fuels, and commercial/furnace), and is similar to, or slightly above, reported inflation over the same period.

As with the margin reviews for the other fuels, there was very limited information on product acquisition costs, and that information was not usable to support a recommendation in the context of potential changes between acquisition costs and benchmarks.

While actual (incurred) margin levels are unclear due to a lack of comparative data, operational costs are clearly rising, and there has not been a pricing or margin amendment in PEI for propane going back well before 2021. Only one propane operator provided data before 2021, so we could not use it to assess cost or margin impacts before that time due to confidentiality concerns.

There is relative complexity in commercial/consumer propane uses, operations, and pricing, as well as a general lack of data to support updates or recommended changes to the regulatory approach. Considering that, along with the fact that propane pricing and markets are generally much less volatile than other petroleum products under PEI's price regulations, there may be a benefit to considering the merits of deregulation of this particular product. General deregulation of this product could address longer-term concerns that current regulations underserve the propane industry. At the same time, downsides related to regulatory objectives, namely increased price volatility for consumers, are likely to be at least partly mitigated by the general lack of volatility in propane markets.

Recommendation(s) :

Propane operational costs have increased by 23 percent (11.8 cpl) between 2021 and 2025 (the period for which we had sufficient data), as supported by a reasonably representative sample of operators. However, there has not been an update for a much longer period, and it's unclear how to account for the likely cost increases before this period or the correct base margin to apply the increase to.

We suggest that the Commission consider deregulating pricing for consumer and commercial propane deliveries on the Island. This product could be seen as "underserved" by current price regulations and could benefit from deregulation without necessarily materially affecting overall prices.

Review of Clean Fuel Regulations and Compliance Costs

In June 2022, the Government of Canada introduced the new Clean Fuel Standards under the Canadian Environmental Protection Act, 1999. The CFR was designed to replace the current Renewable Fuel Regulations (RFR) on July 1, 2023. The CFR requires primary suppliers (producers and importers) of liquid fossil fuels to reduce the carbon intensity of the liquid fossil fuels they produce and import into Canada by 2.4 gCO2e/MJ in 2022 (from 2016 levels) to 12 gCO2e/MJ in 2030.

Producers and importers of gasoline and diesel in PEI can comply with the regulation by blending conventional motor fuels (gasoline or diesel) with lower-carbon-intensity renewable fuels, by investing in producing lower-carbon-intensity fuels, or by buying credits on a secondary market.

Each pathway to compliance imposes a cost on producers or importers, reflected in the wholesale prices primary suppliers charge the market. This cost is embedded in the rack price charged by primary suppliers, and so upstream of the current PEI benchmark.

An added benefit of a rack-based benchmark is the obviation of any regulatory intervention to address CFR compliance costs, as these costs are incorporated (as an operational cost) into the rack price used to formulate PEI's benchmark price. Any change to a benchmark price that uses NYH spot pricing would require the introduction of an adjustment for CFR compliance costs, similar to other Atlantic price regulatory jurisdictions.

Compliance is applied at the national level, not at the provincial level. But costs are allocated relatively evenly across provinces, meaning there should not be much variance province-by-province.

According to the CFR, compliance credits are created in three ways:

- Compliance Category 1 - projects that reduce the lifecycle carbon intensity of liquid fossil fuels (e.g., carbon capture and storage, on-site renewable electricity, co-processing);
- Compliance Category 2 - supplying low-carbon-intensity fuels (e.g., ethanol, biodiesel) and
- Compliance Category 3 - supplying fuel or energy to advanced vehicle technology (e.g., electricity or hydrogen in vehicles).

ECCC released a "Credit Market Data Report" in June 2024. This report outlined credit creation in the early stages of CFR (2022 and 2023). In that report, roughly 10 percent of credit creation came from Compliance Category 1, 60 percent from Compliance Category 2, 6 percent from Compliance Category 3, and the remainder from roll-over of renewable fuels regulations.

Within the largest compliance area (Compliance Category 2 – the supply of low-carbon-intensity fuels), ECCC reported that 72 percent of credits were generated from the production or import of ethanol, 18 percent from the production or import of renewable diesel, and the remainder from other fuels. Only around 1 percent of credits created were associated with Atlantic Canadian provinces in that same category.

With respect to Compliance Category 1, only six approved projects were reported in 2022 and 2023, and their reported methods included co-processing, enhanced oil recovery, and generic quantification methods.

Based on discussions with industry stakeholders, Atlantic Canadian suppliers employed a range of compliance approaches, leading to reported compliance costs that can vary. One common theme in these discussions was that as regulations become more stringent (requiring a larger volume of credits for compliance) and existing credit inventories and rollovers are drawn down, the relative costs of compliance are likely to rise and converge toward the higher end of the credit "market."

This market, in theory, is represented by Environment and Climate Change Canada's (ECCC) Credit and Tracking System (CATS), which serves as a clearinghouse for the purchase and sale of generated credits for use under CFR. CATS credit pricing data should provide a valuable proxy for incurred compliance costs. Still, the CATS market remains relatively immature, with limited data reporting, limited transaction volume, and questions about its liquidity, volatility, and the volume of transactions occurring outside this particular market mechanism.

The most recent ECCC Credit Market Data Report categorized the CFR credit market as "in an early phase of development; the credit pricing information reported will not be economically robust until the market matures." Their report identified just 240 combined credit transfers with a price for the 2022 and 2023 compliance periods. Fundamentally, the CATS is not fully matured, and there are concerns about the availability of credits, credit liquidity, and the transparency and reliability of clearance prices as a tool for estimating compliance costs.

Besides CFR in Canada, three other jurisdictions use similar carbon intensity reduction policies: the California Low Carbon Fuel Standard (LCFS), BC LCFS, and Oregon's Clean Fuels Program (CFP). In our review of these other policies, it is clear that each policy prescribes a range of stringencies and varied pathways to future CI targets. While these policy jurisdictions and their respective credit markets are far more mature than the CFR market, they are distinct, closed markets with unique rules, regulations, and targets. Using these alternative credit markets, in isolation, as direct proxies or models for CFR costs risks an inaccurate representation of actual CFR compliance costs.

Our research in this project and others conducted in Atlantic Canadian regulatory jurisdictions has shown that the method Argus employs (using either the Atlantic or Canadian CFR compliance assessments) has, to date, been the best proxy for actual compliance costs and their impact on Atlantic Canadian rack prices.

However, it should be noted that the issues around the cost of carbon, CFR compliance, and our understanding of its precise impacts on wholesale pricing are still in relatively early stages. The Commission could continue to monitor this issue and evaluate alternative sources of information on the costs of CFR compliance in PEI, and on how this issue continues to impact regional rack pricing.

Recommendation(s) : None

Fuel Product Composition in PEI

Generally, conventional gasoline has become increasingly costly in North American fuel markets relative to E10-blended gasoline. This is primarily because conventional gasoline production has declined and E10 use has increased, driven by biofuel regulations in both the US and Canada that have generally diminished the market for conventional gasoline[57].

Based on our survey and consultations with PEI suppliers, it appears that gasoline supply (and pricing) to PEI is largely (if not exclusively) based on conventional gasoline supply. This trend is likely due to logistical difficulties and costs associated with procurement and shipping ethanol and blendstock, as well as the added cost of securing and maintaining their supply to the Island.

Ethanol production is primarily located in the Midwest/Central parts of North America, and its supply logistics are generally limited to rail, truck, and, sometimes, barge/ship, which can be price-prohibitive when moving the product from production points to an island in the Atlantic region. This reality differs from markets like Saint John and Halifax, which benefit from rail infrastructure that facilitates the relatively cost-effective and strategic use of E10.

The increased reliance on conventional fuels in PEI is a major contributor to the widening spread between PEI rack prices and those in Halifax and Saint John, which rely almost exclusively on E10 blends. Additionally, our survey and consultation evidence suggest limited or no blending of biodiesel in PEI, likely for similar reasons to the use of conventional gasoline rather than E10 blends.

Recommendation(s) :

The Commission should continue to monitor fuel product composition on the Island, particularly the use of conventional vs. E10-blended gasoline, to help assess general disparities in gasoline rack prices between Charlottetown and other comparator markets such as Saint John and Halifax.

[57] A detailed look at these cost differences in presented in the section of this report that reviewed the rack-based benchmark.

APPENDIX A – Jason Parent CV and Qualifications

Jason Parent is the President and Founder of Signal Energy Consulting, with over 25 years of experience in the downstream petroleum industry, beginning as a consultant and later as Managing Director of the Kent Group (now Kalibrate Canada). Jason's functional expertise includes energy pricing, economics/markets, price regulation, and supply chain, with a primary focus on the Canadian downstream petroleum industry. Over the last 25 years, Jason has developed extensive knowledge in upstream and downstream petroleum market fundamentals, retail fuel markets and competition, price and margin analysis, price regulation, macroeconomic forecasting, refining, renewable fuels, and investment analysis within the petroleum industry.

- Jason is a specialist covering the entire petroleum industry value chain, primarily focusing on downstream and retail petroleum.

- Jason's extensive experience with petroleum market analysis and regulatory work has helped him develop a considerable knowledge base, build a trusted network of experts, and earn a reputation among stakeholders for his impartial, data-driven approach.

PROFESSIONAL EXPERIENCE

SIGNAL ENERGY CONSULTING, LONDON, ON
Founder and President, January 2022 - Present

- Primary consultant on various projects focused on energy markets, pricing dynamics/modelling, price regulation, and retail competitive insights.

KENT GROUP LTD/KALIBRATE CANADA, LONDON, ON
Managing Director, April 2019 – December 2021

- Managed Canadian operations, product development, sales, marketing, HR/admin, client services, and consulting business.
- Responsible for Kent's overall strategy, product delivery, and managing Kent's client relationships.
- Functioned as the Director of Kent's Board and participated in all Board activities.
- Directed through the post-acquisition transition and integration into Kalibrate's business.

KENT GROUP LTD, LONDON, ON
Vice President, Consulting, April 2002 – April 2019

- Lead consultant on 100+ projects for clients across the downstream petroleum industry, provincial/federal government agencies, and biofuels.

- Served as a presenter/speaker at several industry events and conferences and provided frequent commentary to the media on various topics related to the downstream petroleum industry.
- Developed and instructed a two-day course, "Introduction to the Downstream Petroleum Industry," delivered to 50+ clients, including NRCAN, Statistics Canada, ECCC, Canadian Fuels Association, US EPA, and many other petroleum industry participants in Canada and the US.
- Functional areas of expertise include petroleum markets and price analysis, regulatory analysis, petroleum supply chain and logistics infrastructure, strategic planning, forecasting, performance benchmarking, biofuels and alternative energy.

EDUCATION

UNIVERSITY OF WINDSOR, WINDSOR, ON

- Bachelor of Commerce (B.Com.), Finance (1997-2001)
- Graduated with Distinction.