



# Phase III Report - Retail Mark-Ups and Other Items

NEWFOUNDLAND AND LABRADOR, BOARD OF COMMISSIONERS  
OF PUBLIC UTILITIES

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## Introduction

Newfoundland and Labrador enacted the Petroleum Products Act (Act) in 2001, paving the way for motor fuels (gasoline and diesel), heating oil, stove oil, and propane fuel prices to be regulated. Since then, the regulations were amended in 2004, 2006, 2010, 2015, 2019, 2022, and 2023.

The Act allows the Board of Commissioners of Public Utilities (the Board) to divide the province of Newfoundland and Labrador into regulated zones wherein the maximum retail prices for motor fuels (gasoline and diesel), furnace oil, stove oil, and propane are set by zone, while the regulations define the zone criteria.

As per the regulations, an application can be filed with the Board of the Province of Newfoundland and Labrador by a retailer, wholesaler, and wholesaler-retailer. The Board may then decide to undertake a review and may hold a hearing on the matter raised by the party to determine whether changes are justified.

On June 7, 2022, the Honourable Sarah Stoodley, Minister of Digital Government and Service NL, requested that the Board complete a review of the following two matters concerning petroleum products pricing: first, the suitability of the pricing mechanism for benchmark prices; and secondly, the maximum markup between the wholesale price to the retailer and the retail price to the consumer for all regulated fuels (both of which comprise the total allowable markup).

The Board engaged R Cube Economic Consulting Inc. (R Cube) to compile data and information and to provide a report to the Board to assist in their review. This report is the third phase of their work initiated by the Minister and will focus on the retail markup review and other associated items for the regulated products within Newfoundland and Labrador.

Apart from providing recommendations for the current retail markups of motor fuels (gasoline and diesel), heating oil, stove oil, and propane across all zones, this report will provide recommendations on six topics: (a) a review of full-service differentials and its applicability to the current regulatory framework; (b) a review on transaction fees (e.g. credit card fees); (c) review of method and frequency of adjustments to retail markups; (d) the methodology for notice of maximum price adjustments; (e) the option for minimum pricing methodologies and approaches; and (f) mid-grade and premium gasoline benchmarking as well as their wholesale and retail markup allocations.

In preparation for the Phase III report, R Cube requested information from the retailers of motor fuels, heating oil, stove oil, and propane in Newfoundland and Labrador between 2018 and 2022. As per this engagement, the Board required R Cube, an independent industry consultant, to review all the information retailers provided and then submit a report with recommendations related to each matter.



This report aims to supplement the Board's understanding of the identified issues, evaluate the evidence presented by Newfoundland and Labrador's retailers, and provide impartial, objective analysis enabling the Board to make the best possible decision under the law.

R Cube is well qualified to undertake this review. Its Director and primary consultant, Vijay Muralidharan, is one of Canada's leading consultants in the fuel marketing sector. In addition, R Cube has extensive experience **with market analysis and regulatory work in petroleum product markets and a well-earned reputation among stakeholders for its impartial and data-based approach.**

## Review of Retail Margins - All Zones (III-1)

### Background

Newfoundland and Labrador has regulated petroleum prices since 2001. Its primary objective for implementing these regulations was to restore consumer confidence and ensure price stability. Since then, the regulations have evolved and currently regulate the pricing of motor fuels (gasoline and diesel), furnace oil, stove oil, and propane, and consider the following objectives<sup>1</sup>:

- To provide price stability for all the specified petroleum products; and
- To provide transparency as to how maximum prices are determined for all specified petroleum products across the province.

The province aims to achieve these objectives by regulating the maximum markup of petroleum products, such as motor fuels (gasoline and diesel), furnace oil, stove oil and propane, and the associated cost components of the final pump price, as outlined in our Phase II report. Additional information on how the regulatory framework of petroleum products is designed and implemented in the province of Newfoundland and Labrador is discussed in detail in the Phase II report.

### Retail Margins

In this report, the term margin relates to gross margin and therefore represents the revenue generated on the sale of the product. It is defined as the difference between two pricing points. For example, the retail margin is determined as the ex-tax pump price less the product's purchase price or acquisition cost from the wholesaler.

Wholesale and retail markups or margins are applied in Newfoundland and Labrador's build-up of regulated prices, and the Board determines a reasonable margin level through reviews such as this one. The rationale for regulating these margins is to ensure sufficient revenue for both wholesalers and retailers to cover their operating expenses and provide a suitable return on capital. A failure to accurately account for these aspects in the regulations' allowable margins may pose a risk to the supply of petroleum products in Newfoundland and Labrador.

Similar to wholesalers, retailers also typically have supply contracts with the wholesaler or with other retailers in Newfoundland and Labrador, using a location-specific rack price as a basis for the contracted transaction price. In their supply agreements, the posted rack price is rarely used as the actual transaction price. This transaction price is typically calculated as a

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<sup>1</sup> [Study of Storage & Distribution Costs for Petroleum Products - NL \(pub.nl.ca\)](#)

differential to rack, either a premium or discount, based on specific commercial arrangements between the parties.

In Newfoundland and Labrador, similar to an unregulated market, retailers and wholesalers may negotiate a pricing arrangement, provided the retailer ultimately does not exceed the maximum retail price set out by the Board. We understand that most supply agreements between wholesalers and retailers in Newfoundland and Labrador are structured this way.

Currently, the regulated maximum allowable retail markups (margins) in Newfoundland and Labrador are set between 10.28 and 12.67 cents per litre for gasoline and 14.03 cents per litre for diesel across the fourteen zones. The maximum retail markups for furnace oil range between 16.27 and 18.27 cents per litre and between 12.9 and 20.28 cents per litre for stove oil. The wholesale and retail markups for propane are combined, ranging between 51.09 and 71.59 cents per litre.

The current margins for regulated motor fuels (gasoline and diesel) specified above were set in 2019-2020 using publically available information up to the end of 2019.

It should be noted that this report is focused on retail markups and will not include any analysis of wholesale margin which was undertaken in the Phase II report.

## The Basis for Our Analysis

In Newfoundland and Labrador, retail markups for regulated motor fuels (gasoline and diesel) were last set in 2019-2020 using information up to and including 2019. However, the retail markups for furnace oil, stove oil, and propane last changed based on data up to and including 2018. Given that the last period of information used to determine the retail markup for motor fuels was 2019, the basis of our analysis will include a comparison to 2019 to determine what has changed since then. However, for heating fuels, the basis of our data analysis will compare to 2018 to determine what has changed since then. In 2021, the Board adjusted the total allowable markups for propane heating fuel on an interim basis<sup>2</sup>.

Two main factors are considered in our analysis of retail margins in Newfoundland and Labrador. The first is an assessment of operating costs using data submitted by provincial retailers. Any changes to operating expenses between 2019 (2018 for heating fuels) and 2022 could affect a retailer's ability to cover those costs and generate a reasonable return.

The second factor is the relationship between the retailer's acquisition cost of fuel and the local rack price in Newfoundland and Labrador (simple volume-weighted average price as published by Kalibrate Canada). As mentioned earlier, retailers operating in the province acquire the regulated petroleum product either at a premium or at a discount to the local rack price.

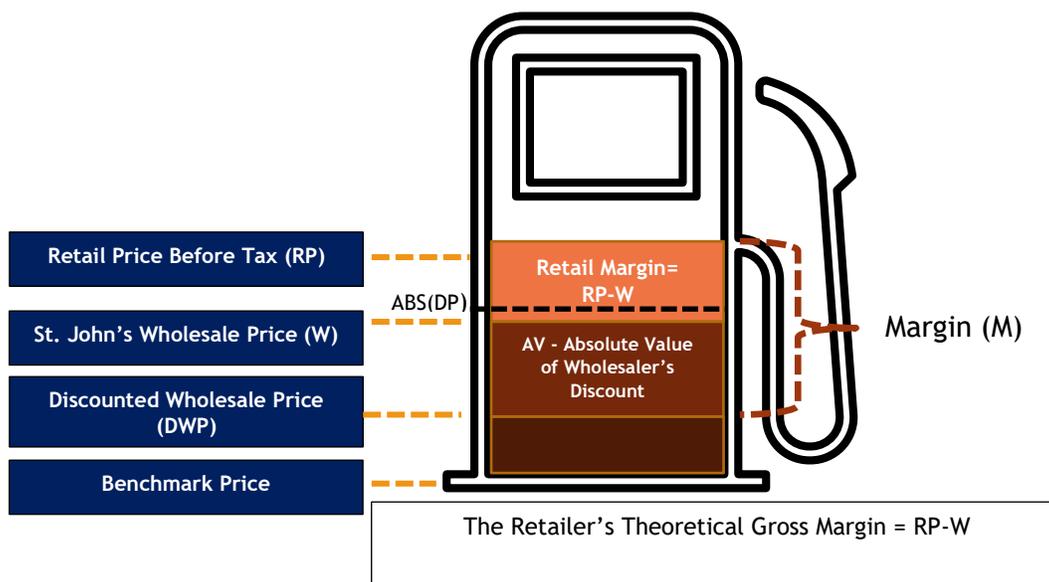
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<sup>2</sup> [NEWFOUNDLAND AND LABRADOR \(pub.nl.ca\)](https://pub.nl.ca)

The acquisition cost change calculation for retailers is a little different from the way we calculated changes to wholesalers' acquisition costs as described in the Phase II report. The wholesalers' acquisition cost changes are based on the movement of the price differential (discount or premium) to the benchmark price at NYH (New York Harbor). However, both retail and wholesale acquisition costs are connected through the local rack price. The local rack price typically follows the benchmark price at NYH because the wholesalers operating in Newfoundland and Labrador sell petroleum products to retailers in the province for a price that is based on the wholesaler's acquisition cost (after the wholesaler applies their margin). Therefore, the retailer's acquisition costs, which are based on local rack prices, would likely reflect the movements in both the wholesaler's acquisition costs and the benchmark price. The price differential between the retailer's acquisition costs and the benchmark price would, in theory, reflect both the change in wholesale and retail acquisition costs over the evaluation period (2019-2022).

Therefore, the acquisition cost of a retailer is a critical component because changes in the differential between these prices may affect the total margin available to the retailers. The margin fundamentals for fuel retailers in Newfoundland and Labrador are illustrated in Figure 1.

Figure 1: The Margin Equation



Source: NLPUB and R Cube Economic Consulting Inc.

Although the Board sets wholesale and retail margins separately, the actual realized wholesale and retail margins will be determined by the individual stakeholder agreements.

Typically, a wholesaler buys the product from a primary supplier, such as a refiner, at a contracted discount to the locally posted rack price. In this scenario, the total available margin for both wholesalers and retailers is represented by the following equation:

$$M = (RP-W) + ABS (DP)$$

In this formula, M represents the total available margin, RP represents the retail price less taxes, W represents the rack price for that product at a given location, and ABS (DP) represents the absolute value of the retailer discount to the rack price. In some scenarios, such as with an integrated supplier, the same ABS (DP) notion would be the same as the difference between the rack and their actual realized acquisition costs of fuel.

The total available margin (M) is the summation of two key variables, the retail price less rack (RP-W) and ABS(DP) - the absolute value of wholesale price discount to the rack or the difference between the rack and the actual realized price or acquisition costs.

Changes to any variable in the equation  $M = (RP-W) + ABS (DP)$  must be considered in combination with the other variables to determine the net impact on the available margin.

As the Phase II report assessed the margin impact on wholesalers, this report will examine how the available margin is impacted by changes to the retailer's acquisition cost between 2019 (2018 for heating fuels) and 2022, using the evidence submitted by retailers in Newfoundland and Labrador.



## Adjustments to Retail Margins

### Evidence presented by Retailers

Retail margins in Newfoundland and Labrador were last set between 10.28 and 12.67 cents per litre for regular gasoline and 14.03 cents per litre for diesel in 2020 using information up to and including 2019. Similarly, the retail markup for furnace oil was set between 16.27 and 18.27 cents per litre and between 12.90 and 20.28 cents per litre for stove oil in 2019 using information up to and including 2018. For propane, the wholesale and retail markups are combined, and they range between 51.09 and 71.59 cents per litre.

Retailers of motor fuels (gasoline and diesel) and heating fuels (furnace oil, stove oil, and propane) in the province of Newfoundland and Labrador were asked to provide data from 2018 through 2022, inclusive. Specifically, the retailers were requested to provide the following:

1. Sales volume by year;
2. All annual operating costs, broken down by components. The operating costs were categorized into wages and salaries, other administration costs, utilities and communication expenses, credit card fees and surcharges, repairs and maintenance, fuel and vehicle operating costs, rent or lease expenses, insurance, capital costs and depreciation, and all other miscellaneous expenses;
3. Cost of full service and distribution costs by zones; and
4. Acquisition costs for fuel, expressed as the actual cost of acquiring the fuel, or their premium or discount to rack, by year.

Eleven retailers representing roughly 150 retail gas stations provided data to R Cube, which collectively accounts for just over half of the total motor fuel (gasoline and diesel) and heating fuel (furnace oil and stove oil) throughput in Newfoundland and Labrador<sup>3</sup>. However, the data submissions for propane were limited to two wholesaler-retailers (the markups for wholesale and retail are determined together). The submissions had a representative mix of the retail market participants with respect to size, operational structure, zones, and relative market position.

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

1. Operating cost factors - how the costs associated with the retailing of fuel have changed between 2019 (2018 data for heating fuels) and 2022.

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<sup>3</sup> Based on Statistics Canada sales of fuel used for road transportation (Table: 23-10-0066-01)

2. Acquisition costs relative to the rack price - how the acquisition cost of regulated fuel products has changed for the retailers relative to the average rack price in the province of Newfoundland and Labrador since 2019 (2018 data for heating fuels).

A key assumption underpinning our chosen approach to this retail margin (markup) analysis is based on the retail markup adjustment in 2019 and 2020 (using data from 2018 and 2019) and assuming that it was correct and fair. As a result, this report focuses on what has changed with these two factors (operating costs and acquisition costs) since that time.

Changes in either factor can impact the available margin for retailers in Newfoundland and Labrador. For example, an increase in operating costs could reduce or eliminate a retailer's ability to generate a reasonable return on their business. Therefore, it would be reasonable to say that if such a scenario existed in a representative sample of the broader retail market in Newfoundland and Labrador, it could warrant an adjustment to the allowable retail markup to restore their ability to generate a reasonable return.

Additionally, if the retailer's acquisition costs rose relative to the local rack price (volume-weighted average rack price in Newfoundland and Labrador as published by Kalibrate Canada), this would reduce the available margin for retailers. In this scenario, it would be fair to say that if this were shown to exist in a representative sample of the broader retail market in Newfoundland and Labrador, the allowable retail markups would need to be adjusted to restore the retailer's ability to generate a reasonable return after adjusting for all other cost factors<sup>4</sup>.

Our approach herein was to evaluate the available data (submitted by retailers) and make reasonable and supported recommendations for markup adjustments based on the operating cost factors and the gap between the acquisition costs and the local rack price. These two components should be considered independent of each other and additive in nature. This means the recommended adjustments from our analysis of each factor are summed together, forming the basis of our final recommendation.

## Data Collection Issues

To collect information on the change to retailers' costs and additional information for motor and heating fuels, a survey was sent to all known retailers in Newfoundland and Labrador on June 20, 2023. The survey included information requests for volumes and distribution costs in all zones as defined by the provincial regulations. The initial request required the survey participants to submit the data by August 7, 2023. Due to the relatively short timeline and other difficulties faced by retailers, we (R Cube with the permission of the Board) extended

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<sup>4</sup> This refers to adjusting other cost components in the regulatory framework, such as transportation cost.



the deadline until the third week of September 2023. We had a strong response from retailers operating across most zones (zones 1 to 14).

## Analysis of Operating Costs

R Cube requested retailers in Newfoundland and Labrador provide a breakdown of costs incurred for retailing motor fuels (regular gasoline, mid-grade gasoline, premium gasoline, and diesel), furnace oil, stove oil, and propane between 2018 and 2022. Many cost submissions were granular and categorized into standard items such as transaction fees, rent, maintenance, salaries, and capital costs etc.

Eleven retailers submitted data on this matter for the entire valuation period. A summary of the data provided includes:

1. Out of the eleven submissions, nine provided cost data for the entire evaluation period (between 2019 and 2022 for motor fuels and 2018 and 2022 for heating fuels). The cost data collected from the retailers represented about 150 retail gas stations in the province.
2. Two out of eleven retailers submitted data for just heating fuels (heating and stove oil and propane).
3. Two retailers failed to submit data for one or more years representing a total of four retail gas stations.
4. One retailer converted their gas station from a full-service gas station to a self-service in 2020. Therefore, the costs associated with this gas station were skewed higher for 2018 and 2019. The retailer was unable to segregate and produce the costs without the full-service costs for those years. So, R Cube did not consider the costs for 2018 and 2019 for this retailer in its analysis.
5. Cost data for propane was handled independently of furnace oil and stove oil.
6. The total submissions for heating fuels (heating oil, stove oil and propane) represented almost two-thirds of the total throughput in the province. We estimated the total demand for heating oil in the province of Newfoundland and Labrador to be around 120 million litres<sup>5</sup>.
7. One of the two submissions for propane cost did not submit data for 2018, and so its evaluation period for propane cost analysis would be between 2019 and 2022<sup>6</sup>.
8. The data submitted was a geographically representative sample of the province as it covered over ninety percent of all regulatory zones.

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<sup>5</sup> The estimate is based on household information data in the report published on June 2019 titled “The Value of Energy - Newfoundland & Labrador Canadians for Affordable Energy: Household Research Series” - [CAE09\\_NFLDLbdr-report\\_JN2919\\_F2.pdf \(d3n8a8pro7vhmx.cloudfront.net\)](#)”

<sup>6</sup> Due to confidentiality agreements with the retailers, we cannot publish information for any specific retailer or wholesaler.

9. R Cube conducted detailed interviews with all retailers who submitted data to gather additional information on costs and other items such as full-service differentials, transaction fees (e.g., credit card fees), opinions on adjustments to the retail markups, methodology for notice of maximum price adjustments, and the possibility of a minimum pricing approach as mentioned earlier in the report. All eleven retailers who submitted data responded to the above topics and the detailed findings are presented in a separate section of this report.

Our approach to reviewing and analyzing the cost data included thoroughly analyzing data quality and identifying anomalies. This often resulted in a follow-up with retailers to clarify and explain any detected issues. Leveraging our expertise and understanding of retail businesses in the market, we determined the reasonableness and applicability of the submitted costs. In this review, except for one submission (see point 4 above), no material issues were detected in the cost data, and most of the submitted data was deemed suitable for use in our analysis. The submission with identified data issues was amended, and the costs were updated and ultimately included in our analysis.

Our process and further analysis considered the following steps, findings, and assumptions:

1. Most companies provided data in sufficient detail, making it reasonably easy to categorize the cost items properly. For most submissions, we detected no material anomalies in the cost data. There were three submissions that required follow-up with data amendment and resubmission by the retailers.
2. All the submitted cost data was converted into cents per litre using the volumetric data provided by the retailers.
3. Although the cost levels varied between submissions, the data was generally consistent with the trend, showing an increase between 2019 and 2022 for motor fuels and between 2018 and 2022 for heating fuels. The only exception to the observed trend was in 2021. Any submissions containing cost information for only heating fuels were not considered in the analysis of motor fuels.
4. The unit cost numbers by the company were evaluated for reasonableness based on each company's size and their general structure and involvement in the retail business in Newfoundland and Labrador. The range of costs between companies that submitted data was determined to be reasonable.
5. The aggregated annual operating cost per litre for all the submissions was calculated using a volume-weighted average, and this helps address variations caused by differences in the magnitude of cost and volumes for the range of participants in Newfoundland and Labrador.
6. We calculated the aggregate volume-weighted change over the evaluation period as a basis for our recommendation regarding operating costs. We used this calculated value to determine the markup adjustment required to maintain margin levels and help

ensure a reasonable return for retailers (See Figures 2 and 3). The results are published in Table 1.

Figure 2: Volume-Weighted Average Operating Costs for Motor Fuels (2019-2022)

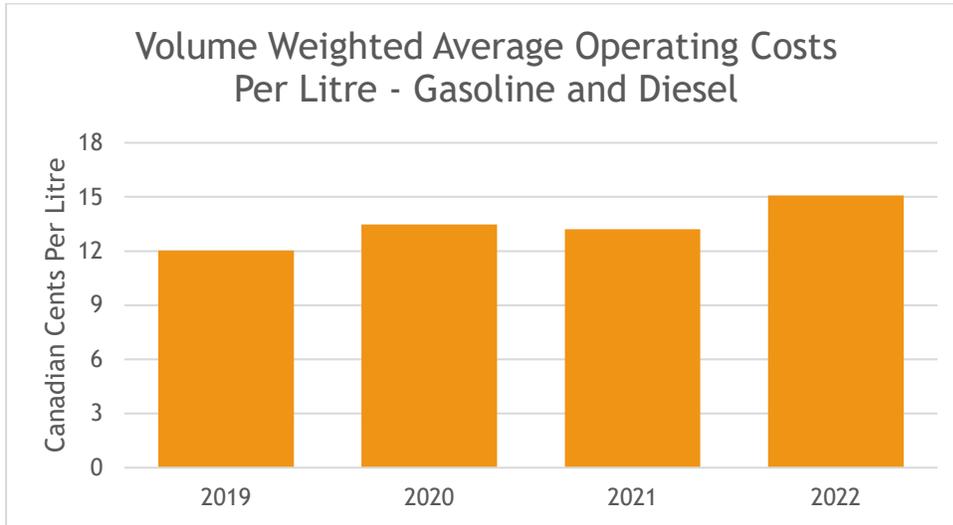


Figure 3: Volume-Weighted Average Operating Costs for Heating Fuels (2019-2022)

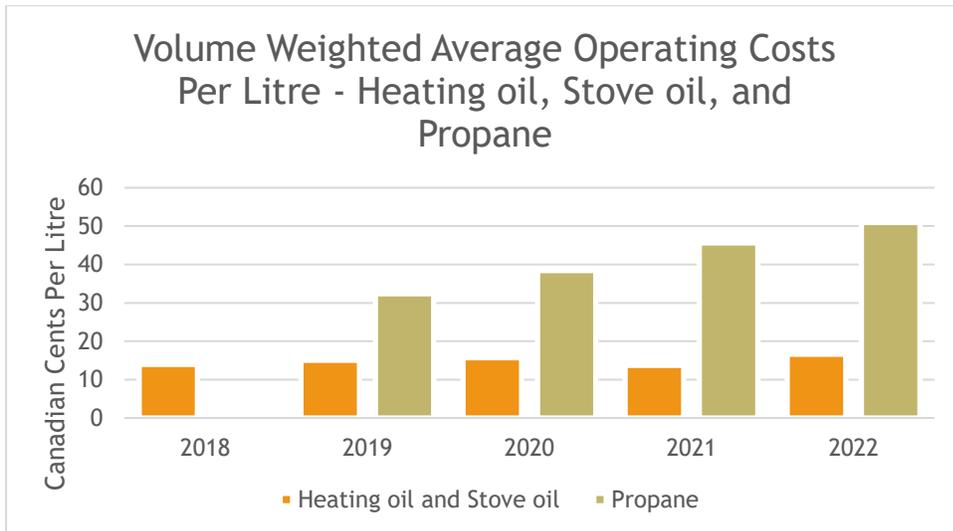


Table 1: Change in Retailers' Annual Average Operating Costs Per Litre (2019-2022)

Volume-Weighted Average Operating Cost	2018	2019	2020	2021	2022	Net Change 2019-2022	Net Change 2018-2022
Gasoline and Diesel		12.028	13.479	13.205	15.085	3.057	
Heating and Stove oil	13.982	15.042	15.719	13.722	16.642		2.660
Propane		32.411	38.386	45.605	50.952	18.541	

## Findings

*Based on our analysis of the data submitted by the retailers, we find that the total operating costs related to the retailing of regulated fuels (all gasoline grades, diesel, furnace oil, stove oil, and propane) increased over the evaluation period. Operating costs for motor fuels (gasoline and diesel) and propane increased by 3.057 cents per litre and 18.541 cents per litre respectively between 2019 and 2022, while the operating costs for heating oil and stove oil increased by 2.660 cents per litre between 2018 and 2022.*

*The increase for motor fuels would apply to the previously established (2019) regulated maximum retail markups while heating fuels would apply to the previously established (2018) retail markups. For example, we recommend that this amount (3.057) be added to the 2019 markup of 10.28 and 12.67 cents per litre for gasoline and 14.03 cents per litre for diesel. Similarly, the change in operating costs for heating fuels, 2.660 (heating oil and stove oil) be applied to the 2018 retail markup, which was between 16.27 and 18.27 cents per litre for furnace oil and between 12.90 and 20.28 for stove oil. We also recommend that the change in propane costs of 18.541 cents per litre be applied to the propane markup in 2018 (51.09 cents per litre).*

*We also recommend that the increase be applied to all 14 zones in the province of Newfoundland and Labrador as the volume-weighted cost per litre in our analysis is based on data from retailers operating in over ninety percent of zones in the province. The net adjustment to the retail markup will be addressed in the next section after accounting for the acquisition cost portion.*

## Analysis of Acquisition Costs

Acquisition cost is the second component in our analysis and is measured as the actual change in retailers' acquisition cost relative to the local rack price<sup>7</sup> as published by Kalibrate Canada for all regulated fuels (motor and heating fuels) for the relevant evaluation period. If the price differential between the average acquisition cost (unit cost) of all retailers who submitted data and the local rack price has materially changed since 2019 (motor fuels) or 2018 (heating fuels), then it could impact the margin available to retailers.

We requested retailers in Newfoundland and Labrador provide their acquisition costs for motor fuels (regular gasoline, mid-grade gasoline, and premium gasoline and diesel), furnace and stove oil, and propane over the evaluation period (2019 to 2022 for motor fuels and between 2018 and 2022 for heating fuels). We advised participants to submit either the actual acquisition cost or a price differential to an identified rack price that relates to their supply agreements. For submissions where the acquisition costs were provided, we use them directly in our analysis. A summary of the data provided includes:

- a) In all, eight out of eleven retailers submitted data on acquisition costs representing over 120 gas stations in the province, which is below half of all retail gas stations in the province<sup>8</sup>.
- b) All eight retailers provided acquisition cost data for regular gasoline, whereas seven retailers provided information on premium gasoline acquisition costs and six provided diesel acquisition costs. There were only three retailers who submitted the acquisition cost for mid-grade gasoline.
- c) Three retailers provided acquisition costs for furnace oil and one for stove oil. There was one submission for the acquisition cost of propane. Therefore, we will not report the change in acquisition cost for stove oil and propane due to a lack of representative data. However, for heating oil, we have representative data and the data from all the submissions were deemed good.
- d) The total product volumes in the submissions for motor fuels (regular and premium gasoline and diesel) were less than half of the total throughput in Newfoundland and Labrador<sup>9</sup>.
- e) Two participants cited confidentiality concerns for not submitting their acquisition costs.
- f) Acquisition cost data submitted for motor fuels covered most zones and in our opinion is a good representation of the broader retail market in Newfoundland and Labrador.

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<sup>7</sup> Kalibrate Canada publishes rack price for provinces and certain cities across Canada ([Kalibrate](#)).

<sup>8</sup> We estimate over 300 retail gas stations in the province based on internal research and based on our past research work and analysis.

<sup>9</sup> Based on Statistics Canada sales of fuel used for road transportation (Table: 23-10-0066-01) and R Cube Economic Consulting Inc. internal calculations.

- g) Given that we lacked a representative sample on acquisition costs for stove oil, mid-grade gasoline, and propane, we were unable to produce a meaningful analysis or recommendation for these three products for this component.

### Data Integrity Issues

Similar to the analysis of operating costs, our approach to reviewing and analyzing acquisition cost data began with a thorough examination of data quality and the identification of potential anomalies or issues, and then following up with retailers where clarification and explanation were needed. There were data quality issues concerning four submissions by retailers. The data seemed to include at least partial tax allocations in their reported acquisition costs. After consultation with the retailers, the tax portion of the costs were deducted based on estimated values<sup>10</sup>, since the retailers were unable to provide R Cube with a confirmation of the precise values to deduct the tax from the acquisition cost. Therefore, R Cube has estimated the tax component used in calculating the acquisition costs and used in our recommendations for this particular component.

Our process and analysis consisted of the following steps:

1. We used acquisition cost directly in our analysis for retailers that provided data on the acquisition cost as an absolute value. However, for those submissions where the acquisition costs were submitted as a price differential to rack, we calculated the absolute value using the price differential submitted by the retailer. We applied the reported differential to the Newfoundland and Labrador volume-weighted average rack price<sup>11</sup> reported by Kalibrate Canada. This enabled us to calculate the aggregate value of acquisition costs for all retailers.
2. Kalibrate Canada publishes simple volume-weighted average daily rack prices for Newfoundland and Labrador for regular gasoline, diesel, and furnace oil. However, for premium gasoline, Kalibrate publishes daily rack prices for only Corner Brook and St. John's. So, a simple average of rack price between Corner Brook and St John's was used in our analysis for premium gasoline.
3. We calculated the volume-weighted average change in acquisition cost (the price differential between acquisition costs and local rack price) over the evaluation period (between 2019 and 2022 for motor fuels and between 2018 and 2022 for heating fuels) to form the basis of our recommendation. We then examined the change in the acquisition costs relative to the rack prices over the evaluation period to determine the potential impact on retail margins and the required adjustment to ensure the opportunity for a reasonable return for retailers. We observed that the volume-

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<sup>10</sup> The wholesaler were unable to provide R Cube with a tax breakdown of this cost component, therefore, R Cube estimated the tax portion and used it in the analysis.

<sup>11</sup> We used the rack price in Newfoundland and Labrador (Volume-weighted) as reported by Kalibrate Canada /NRCan, for the data access link here ([Kalibrate](#))

weighted acquisition cost differentials to rack exhibited a similar trend as individual submissions (Figure 4 and Table 2).

Figure 4: Volume Weighted Average - Acquisition Cost (Price Differential to Local Rack Price)

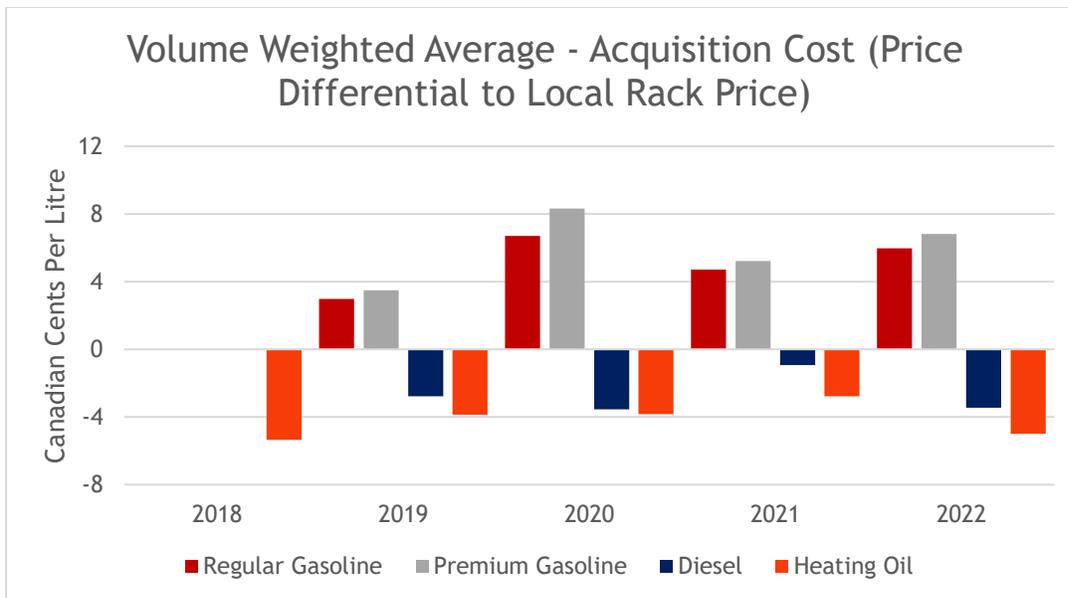


Table 2: Volume-Weighted Average Acquisition cost (Price Differential to Local Rack Price)

Volume Weighted Average - Acquisition Cost (Price Differential to Local Rack Price)							
Products	2018	2019	2020	2021	2022	Net Change (2019-2022)	Net Change (2018-2022)
Regular Gasoline		2.978	6.694	4.702	5.963	2.985	
Mid-Grade Gasoline							
Premium Gasoline		3.489	8.317	5.214	6.817	3.327	
Diesel		-2.776	-3.541	-0.932	-3.453	-0.677	
Heating Oil	-5.359	-3.858	-3.826	-2.767	-5.004		0.355
Stove Oil							
Propane							

Please note that the change in retailer’s acquisition costs presented above (2019-2022 (Motor fuels) and 2018-2022 (Heating fuels)), includes a portion of change in the wholesale acquisition costs as well (This is explained on page 9 of this report). However, given that the wholesalers operating in Newfoundland and Labrador did not submit acquisition costs data (Phase II report), we are unable to split the change in acquisition costs between wholesalers and retailers for the regulated petroleum products.

*Based on our examination of the submitted and vetted data from retailers, and our method of analysis described above, we observed that acquisition cost increased by 2.985 cents per litre for regular gasoline and by 3.327 cents per litre for premium gasoline over the evaluation period (2019-2022). Additionally, we observed that for diesel the acquisition cost also fell by 0.677 cents per litre between 2019 and 2022 (Table 2), and the acquisition cost for heating oil increased by 0.355 cents per litre over the evaluation period (2018 and 2022). We recommend using the acquisition costs component while adjusting the retail mark-ups for motor fuels and heating oil. It is also essential to acknowledge that the calculation of acquisition costs for all motor fuels accounts for a tax component estimated by R Cube, given the complexity of the data submitted by retailers. Based on its understanding of the industry and the data submitted by retailers, R Cube recommends that the Board consider using the change in acquisition costs as presented on Table 2 for regular gasoline, premium gasoline, diesel, and heating oil, while adjusting the retail mark-up.*

*As stated earlier, we are unable to recommend a change to the total margins for mid-grade gasoline, stove oil, and propane due to a lack of adequate submissions.*

### Net Impact on Regulated Retail Margins

Operating costs and acquisition cost differentials are independent of each other, and their respective adjustments should be considered additive. Therefore, the combined impact of both components is presented together showing their net impact on recommended retail margin adjustments (Table 3).

*Table 3: Net Change to Retail Margins*

Net Impact on Retail Markup					
Products	Operating Costs (Volume-Weighted Average)	Acquisition Costs (Volume-Weighted Average)	Net Impact on Retail Markups	Current markup Range (Lower bound)	Recommended New Retail Markup Range
Regular Gasoline	3.057	2.985	6.042	10.28	16.322
Mid-Grade Gasoline	3.057	0.000	3.057	11.28	14.337
Premium Gasoline	3.057	3.327	6.384	12.28	18.664
Diesel	3.057	-0.677	2.380	14.03	16.410
Heating Oil	2.660	0.355	3.015	16.27	19.285
Stove Oil	2.660	0.000	2.660	12.9	15.560
Propane	18.541	0.000	18.541	51.09	69.631



***Based on our analysis of both operating costs and acquisition costs, we found a net change for all petroleum products as those costs have increased over the evaluation period. We recommend that the Board follow the net change of both operating cost and change in acquisition cost presented in Table 3 for the combined regulated retail margin adjustments for all regulated petroleum products. The recommended net change applies to all zones.***

## Review of Full-Service Differential and Applicability - All Zones (III-2)

The Board currently sets the maximum price for all regulated motor fuels (regular, mid-grade, and premium gasoline and diesel) for both self and full-service. For full service, the Board adds an additional 3 cents per litre<sup>12</sup> (Inclusive of 15% HST) to the maximum allowable price of self service. As part of this report, the Board tasked R Cube to conduct a review of current full-service price differentials and their applicability to Newfoundland and Labrador fuel pricing regulations.

Based on our research and analysis as well as conversations with retailers, R Cube understands that most retail gas stations in Newfoundland and Labrador are operated as fully self-service, meaning the customer pays and fills their vehicle or container. Whereas a full-service gas station<sup>13</sup> offers extra services such as filling gas for the customer or cleaning the windshield that historically would involve additional charges. It is R Cube's understanding that only a small number of full-service gas stations remain operational in the province.

To collect information on full-service gas stations and the incremental costs associated specifically with operating these types of stations, R Cube added questions in the retail survey that it sent to all the retailers operating in the province. The questions pertained to full-service volumes of motor fuels (regular, mid-grade, and premium gasoline and diesel), the price differential for full-service relative to self-service offerings, and other associated costs such as additional staffing associated specifically with offering full-service. The objective of these questions was to understand the incremental costs and revenues associated with operating full-service gas stations and provide recommendations to the Board whether to increase or maintain the existing margin for full-service operations.

Out of eleven retailers that submitted data to R Cube, only one retailer provided information on operating full-service stations. The retailer provided information only on the price differential between full-service and self-service and no data on either costs or volume of sales. The price differential was less than 0.5 Canadian cents per litre. A majority of the retailers who participated in the retail survey conveyed to R Cube that they do not provide full service at any of their retail outlets. Given the lack of submissions and corresponding data on this issue, we are unable to make recommendations to the Board about a full-service price margin and its applicability across provincial zones.

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<sup>12</sup> [Schedule A - 2023-11-02.xlsx \(pub.nl.ca\)](#)

<sup>13</sup> [Above and beyond full service \(fuel.crs\)](#)

## Review of Transaction Fees (III-3)

Currently, only Nova Scotia has a separate retail credit card fee margin adjustment. The Board requested that R Cube investigate the possibility of introducing a similar regulatory element in Newfoundland and Labrador. To undertake this analysis, R Cube requested all retailers to provide more granularity or additional cost breakdown within their reported operating costs. All retailers were requested to provide costs associated with credit card fees and surcharges that they incurred selling petroleum products at their retail sites within the province between 2018 and 2022 (evaluation period). For submissions where the transaction fees were provided, we used them directly in our analysis. A summary of the data provided includes:

- a) Ten of eleven retailers submitted data on credit card fees and surcharges representing close to 140 gas stations, which is just below half of all retail gas stations in the province<sup>14</sup>. One retailer could not provide data for all of their stations due to the unavailability of this feature at all their sites.
- b) Eight of the ten retailers provided data from 2019 through 2022.
- c) All costs were submitted in absolute dollar values per year, so we converted the dollar values to Canadian cents per litre to get a more accurate measure. Similar to the analysis undertaken with operating cost in the earlier section, we took the volume-weighted average of all transaction fees (per litre) for all submissions.
- d) Additionally, we calculated the share of volume-weighted transaction costs as a percentage of volume-weighted total operating costs. This analysis provides insight into the unique impact of this cost component relative to total operating costs and also provides a clear understanding of its rate of change over the evaluation period relative to other operating costs.

### Our Findings

Based on the analysis described above, we find that the volume-weighted average transaction fee cost component for all retailers that submitted data increased from 0.882 cents per litre to 1.2 cents per litre between 2019 and 2022. This is about a 36% increase (See Figure 5 and Table 4). We also observe that the percentage share of transaction fees of total operating costs increased from just over 8% to almost 10%, this is about a 1.4% increase over the evaluation period (2019 -2022) (Table 4 and Figures 5 and 6). This analysis shows that the costs related to transaction fees (credit card fees and surcharges) have been increasing at a higher rate, and its share of the total operating expenses has increased markedly. The

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<sup>14</sup> We estimate over 300 retail gas stations in the province based on internal research and based on our past research work and analysis.

primary reason for this cost category to increase in recent years is higher prices for motor fuels, given that credit card fees and surcharges are typically based on a percentage of the total price. Given that this cost component is susceptible to change over time, and is typically driven by factors that are distinct from most other operating costs, there is a case for it to be treated separately from other operating cost components.

Table 4: Volume-Weighted Average Transaction Fees for Petroleum Products (Retail)

Transaction Fees (Credit Card Fees and Surcharges) for All Petroleum Products					
	2019	2020	2021	2022	Net Change (2019-2022)
Volume-Weighted Average Transaction Fees per Litre	0.882	0.804	0.965	1.200	0.318
Transaction Fees as a percentage of total Operating Volume-Weighted Average Cost per litre	8.4%	7.6%	8.4%	9.8%	1.4%

Figure 5: Volume Weighted Average Transaction Fees Per Litre - All Petroleum Products

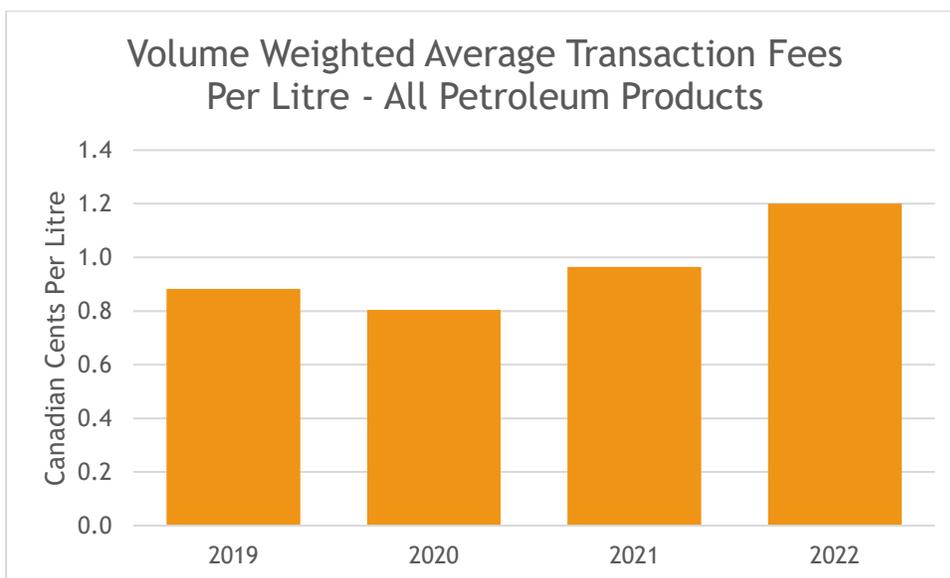


Figure 6: Volume Weighted Average Transaction Fees as a Percentage of Total Operating Costs - All Petroleum Products

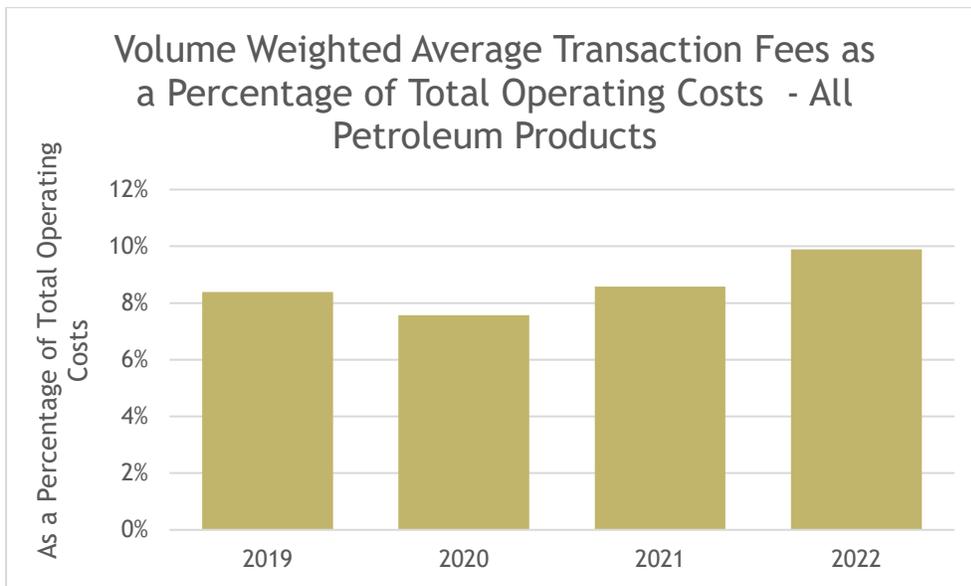


Table 5: Correlation Between Motor fuels and Credit Card fees and Surcharges

	Retail Price - Gasoline	Retail Price - Diesel	Credit Card fees and Surcharges
Retail Price - Gasoline	100%		
Retail Price - Diesel	98%	100%	
Credit Card fees and Surcharges	99%	99%	100%

Source: Kalibrate Canada, Statistics Canada, R Cube Economic Consulting Inc.

**Given that the transaction fee cost component is subject to increased volatility due to general price fluctuation of the base product, and this cost typically moves independently of other cost components, there is a case to treat this cost component separately. Acknowledging this aspect, NSUARB treats credit card fees and surcharges as a separate component while setting weekly minimum and maximum prices, which currently are set at 0.3 cents per litre.**

*We recommend some options to the Board. The first is to conduct more frequent or regular margin reviews (such as annual reviews), in which case transaction fees (credit card fees and surcharges) could simply be handled as any other operating cost, and the related adjustments could be incorporated in the analysis of broader operating cost changes in those reviews.*

*The second option, in the absence of more frequent margin reviews, we recommend that the Board look at an indexation of retail motor fuel prices (gasoline and diesel prices). Given the high correlation between these variables and credit card fees and surcharges (See Table 5), using this correlation as a base, we propose an indexing method based on weights for gasoline and diesel prices to adjust for changes in transaction fees.*

*We used a volume-weighted average method for retail sales of gasoline and diesel as published by Statistics Canada (Table: 23-10-0066-01) in Newfoundland and Labrador, and calculated weights for both diesel and gasoline. Using these weights and the retail price of gasoline and diesel (Kalibrate Canada) we indexed the volume weighted average of motor fuel price to a base year, and then calculated the annual change. The annual year-over-year change in values can be estimated to determine the implied changes to transaction fees (See Table 6). The frequency of adjustment in this case would be annual.*

*Therefore, we recommend the Board implement an annual cost review or implement an indexing method proposed above and consider treating this cost component separately from other operating costs as long as it is within the Board’s jurisdiction.*

*Table 6: Methodology to Track Transaction Fees*

Dates	Gasoline Retail Price	Diesel Retail Price	Weights Based on Volumetric Sales		Indexing	Percentage Change from Previous year
			Gasoline	Diesel		
2018	133.7	140.8	75%	25%	100	
2019	126.8	136.5	71%	29%	95.46	-5%
2020	110	110.6	69%	31%	81.12	-15%
2021	148.7	147.4	70%	30%	109.20	35%
2022	187.2	224	73%	27%	145.22	33%
2023*	176.6	192.6	71%	29%	133.53	-8%

Source: Kalibrate Canada, Statistics Canada, R Cube Economic Consulting Inc. Note: \* refers to year-to-date price. The weighted average Methodology- Year-over-year change in gasoline price times the weight plus year-over-year change in diesel price times its weight. The weights are based on volumetric fuel sales as reported by Statistics Canada: 23-10-0066-01 (formerly CANSIM 405-0002).



## Review of Adjustments to Retail Margins (III-4)

Any adjustments to the regulated maximum retail margin in Newfoundland and Labrador are currently addressed in an ad-hoc fashion, either based on a margin review from a filed application or initiated by the Board. The last reviews were undertaken in 2019 and 2020. The Board may also choose to adjust retail margins on an interim basis under extraordinary circumstances. The intermittent nature of previous margin adjustments may not be ideal for retailers selling motor and heating fuels in the province as their costs change regularly. If the cost changes are not acknowledged frequently, it has the potential to reduce margins for retailers as they absorb higher costs with a fixed maximum margin and potentially pose a risk to the security of fuel supply in the province. Therefore, it is imperative to understand retailers' perspectives about the current process regarding retail margin adjustments.

To capture feedback about the retailers' perception of current margin adjustments and frequency, we conducted interviews with every retailer that submitted data in this review. Details and insights from these interviews included:

- a) Each conversation lasted between 30 and 60 minutes.
- b) Eleven retailers were interviewed by R Cube.
- c) All retailers (unanimously) stated that they would prefer more regular margin reviews and adjustments than the current process. They preferred an annual review and would be willing to participate by submitting data on a more regular basis, and are willing to allocate resources to that effect. It would be easier for the retailers to submit the data if dates and deadlines were agreed in advance.
- d) Retailers operate in a heavily fluctuating market environment, so a more frequent margin review would help them capture these changing costs and lessen the potential for negative impacts on their total available margins.
- e) In this review, we also observed that the current review has occurred after almost five years, and over that time margins changed little, but costs increased steadily. This forces retailers/wholesalers to absorb increasing costs against a fixed maximum margin and could impact their ability to generate a reasonable return.
- f) As a result, ***we recommend to the Board that a more regular margin adjustment be pursued, and the preference among retailers interviewed was for an annual frequency.***

## Review of Methodology for Notice of Maximum Price Adjustments (III-5)

Another topic discussed with all the retailers we interviewed was their thoughts on the current methodology for the notice of maximum price adjustments. Currently, the Board sends the communique regarding the new maximum prices to the industry at or around 2:00 p.m. on Wednesdays (i.e., the day prior to adjustment), to the media at or around 8:00 p.m. on Wednesdays (i.e. the day prior to adjustment). The general public can access the new maximum pricing information at 12:01 a.m. on Thursday (i.e., the effective day of the adjustment)<sup>15</sup>. The maximum prices are adjusted weekly, on every Thursday. The scheduled weekly adjustment on Thursday is usually based on an average of the daily benchmark prices over the period from the previous Wednesday to Tuesday.

Similar to the approach used in the previous sections, R Cube conducted interviews with all retailers that submitted data for the retail survey. The preference for an interview over a survey was to accurately capture the retailers' responses and preferences including qualitative responses.

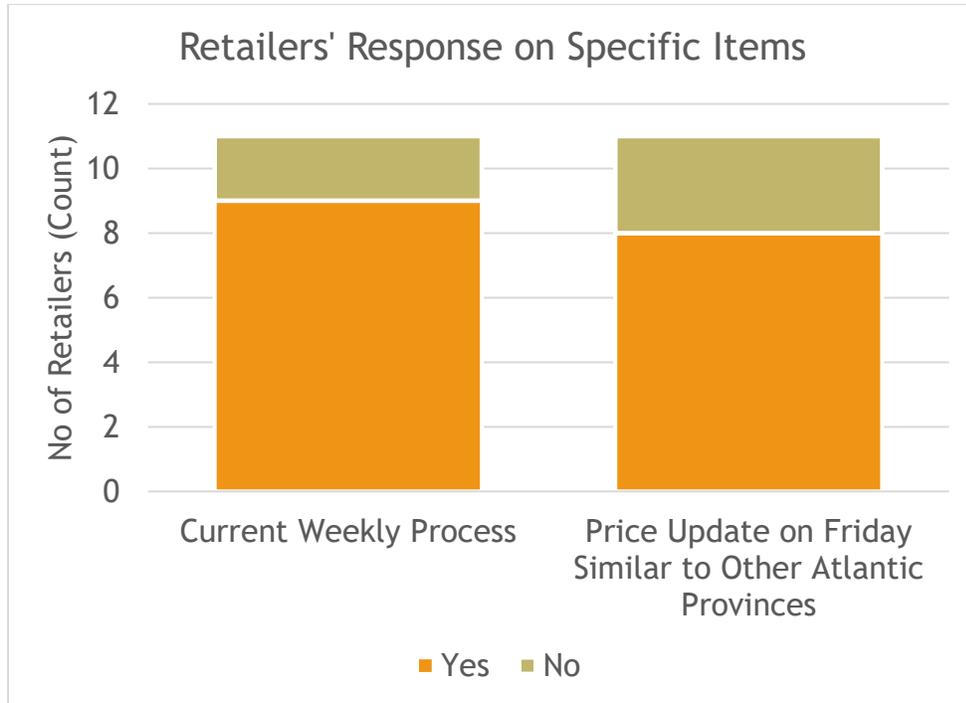
Our findings related to retailers' preferences for the notice of maximum price adjustments are as follows:

- a) All eleven retailers were interviewed by R Cube on this matter.
- b) A majority of retailers were comfortable with the Board's current process of weekly adjustments of maximum prices (Figure 7). However, a majority of those who preferred the current process also preferred that the regulatory framework was more aligned across all regulated provinces in Atlantic Canada. This also included the weekly adjustments of maximum pricing. Other regulated markets in Atlantic Canada adjust their weekly prices, except for extraordinary circumstances, effective on Friday (PEI, New Brunswick, and Nova Scotia) using the average daily price from the previous week Thursday to the following Wednesday.
- c) Two retailers were not happy with the current process of weekly adjustments. One of the retailers who did prefer the current process informed R Cube that they would prefer more frequent adjustments within a week ("weekly updates don't account for daily price movements in the market").
- d) Based on our conversations with the retailers ***we recommend to the Board that the current process to set maximum prices should continue, however, we also recommend the Board consider switching the timing of the weekly adjustments to set maximum prices similar to other regulated provinces in Atlantic Canada.***

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<sup>15</sup> [Board of Commissioners of Public Utilities](#)

Figure 7: Retailers' Response to Specific Item



## Review of Minimum Pricing Methodologies and Approaches (III-6)

The Board sets the maximum price for petroleum products in Newfoundland and Labrador, using different components such as benchmark price, wholesale margin, zone price differential, retail margins and taxes. Both wholesale and retail margins are regulated based on the principle that these margins are intended to provide sufficient revenue for both wholesalers and retailers to cover their operating expenses along with a suitable return on investment. A failure to accurately account for these aspects in the regulations' allowable margins may pose a risk to the supply of petroleum products in Newfoundland and Labrador.

These principles are also applicable in other regulated provinces across Atlantic Canada. However, two provinces (P.E.I and Nova Scotia) have a slightly different approach to how they regulate prices in that they employ both a minimum and a maximum regulated price.

Currently, PEI has a minimum allowable retail margin of seven cents per litre and a maximum allowable margin of eight cents per litre, with a spread of about one cent per litre<sup>16</sup> between them. Nova Scotia's minimum and maximum retail margins are currently set at 5.4 and 7.4 cents per litre respectively<sup>17</sup>. The advantage of using both a minimum and maximum regulated retail price ensures the retailers' margin is relatively consistent over time, which ensures the sustainability of their business, and protects the security of supply. Alternatively, maximum price regulations without a minimum (no price floor) also has advantages, allowing additional competition from lower cost competitors (such as big box marketers) that could lead to lower prices for consumers. However, this approach can also challenge some smaller independent competitors who are unable to compete at those lower prices.

To understand the preference of market participants for a potential switch from a maximum price regulatory framework to a minimum and maximum price framework, we interviewed all the retailers who submitted the data for the retail survey. Our observations and findings are as follows:

- a) All eleven retailers were interviewed by R Cube on this matter.
- b) An overwhelming majority of the retailers preferred a switch from maximum prices to minimum and maximum price framework, similar to Nova Scotia and P.E.I. Eight out of eleven retailers preferred this change. The results of the survey are presented in Figure 8.
- c) A majority of the retailers who preferred a change cited unfair price-cutting competition from big box marketers as their main reason. They felt that under the current regulation of maximum pricing, their margins have been affected significantly by the price-cutting behaviour of big box marketers.
- d) The three retailers that preferred the current approach cited that it gave them more control over the lower bound of prices and the capability to compete for market

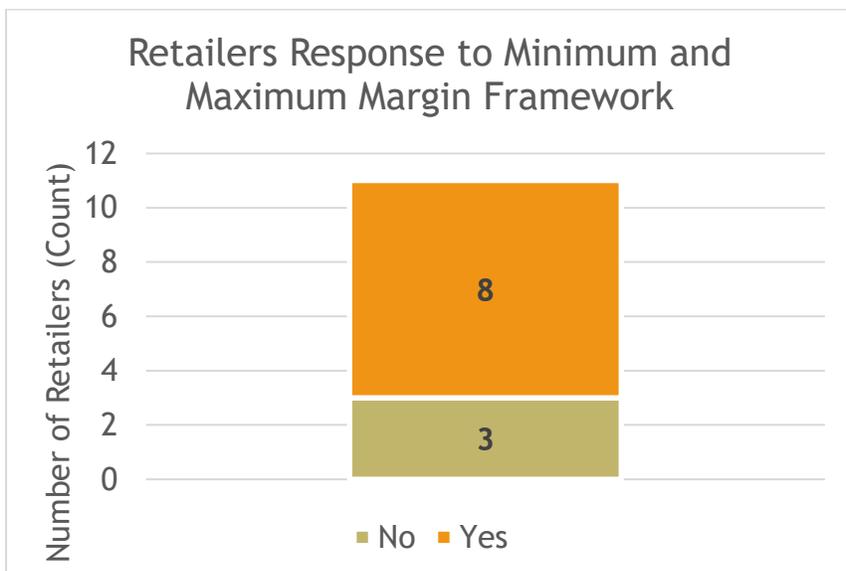
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<sup>16</sup> [Current Petroleum Prices \(irac.pe.ca\)](http://irac.pe.ca)

<sup>17</sup> [Petroleum Pricing Breakdown Oct 13-23.pdf \(novascotia.ca\)](http://novascotia.ca)

share. Another retailer cited the relatively remote geographical location as an advantage for not switching to a minimum and maximum price framework.

Figure 8: Retailers Response to Minimum and Maximum Margin Framework



*Based on our conversations with retailers, a majority of them preferred a switch to a minimum and maximum pricing, similar to Nova Scotia and P.E.I. However, there are potential risks to the implementation of minimum pricing. A move to minimum price regulation can inhibit lower-cost retailers (such as big box marketers) from operating in the province, and could ultimately lead to higher prices for consumers. Generally, operating under both minimum and maximum price regulation limits competition (based on price), and while it can reduce price volatility, it can also result in consumers paying more than they would under a regulatory framework without a price floor.*

*Therefore, we recommend that the Board consider both retailers' preferences (and the associated benefits) along with the potential downside risks to determine whether implementing minimum pricing aligns with their regulatory objectives.*

## Review of Mid-Grade and Premium Gasoline Benchmark and Margins (III-7)

### The Current Benchmark Price

The benchmark price for regulated petroleum products is the base component in the Board's formula that sets the maximum for wholesale and retail prices in Newfoundland and Labrador. The Board sets the maximum retail price for petroleum products every Thursday based on the identified benchmark price, which is effectively calculated from an average of the previous week's New York Harbor (NYH) prices for gasoline and diesel, running from Wednesday to the following Tuesday. The benchmark price for gasoline is calculated as the average of the high and low of the regular unleaded gasoline at NYH as published by Platts<sup>18</sup>. Given that the identified benchmark price is listed in United States (US) cents per gallon, it is converted back to Canadian cents per litre using the daily currency exchange rate posted by the Bank of Canada.

The publicly posted rack price from St John's is a wholesale reference price for refined products sold out of that market and is a commonly used basis on which most wholesale transactions are contracted in Newfoundland and Labrador<sup>19</sup>. In the current regulations, the rack price cannot be used as the benchmark price, and it is widely acknowledged as not reflecting the same volume of sales transactions as regional US Benchmarks published by independent price agencies such as Platts, Argus, or OPIS. New York Harbor pricing is widely viewed as a more transparent and market-based reference for wholesale refined product prices in Atlantic Canada and the eastern part of the US.

1. Historically, the posted rack price in St John's follows a similar trend and direction as US benchmark gasoline prices due to the relative proximity and logistical connections between the markets (Figure 9). Similarly, the premium gasoline price at St John's also closely follows the NYH price (Figure 10) and has historically traded at a premium to NYH<sup>20</sup> (accounting for the cost of transportation between the two hubs). However, starting in 2022, the premium price at St John's has traded well below the NYH counterpart price. This would imply that premium gasoline product was technically sold below their market value in the province of Newfoundland and Labrador. This is likely due to the inability of the wholesalers to raise the price of the premium gasoline product above regulatory limits (such as the fixed maximum price differential between

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<sup>18</sup> [Board of Commissioners of Public Utilities](#)

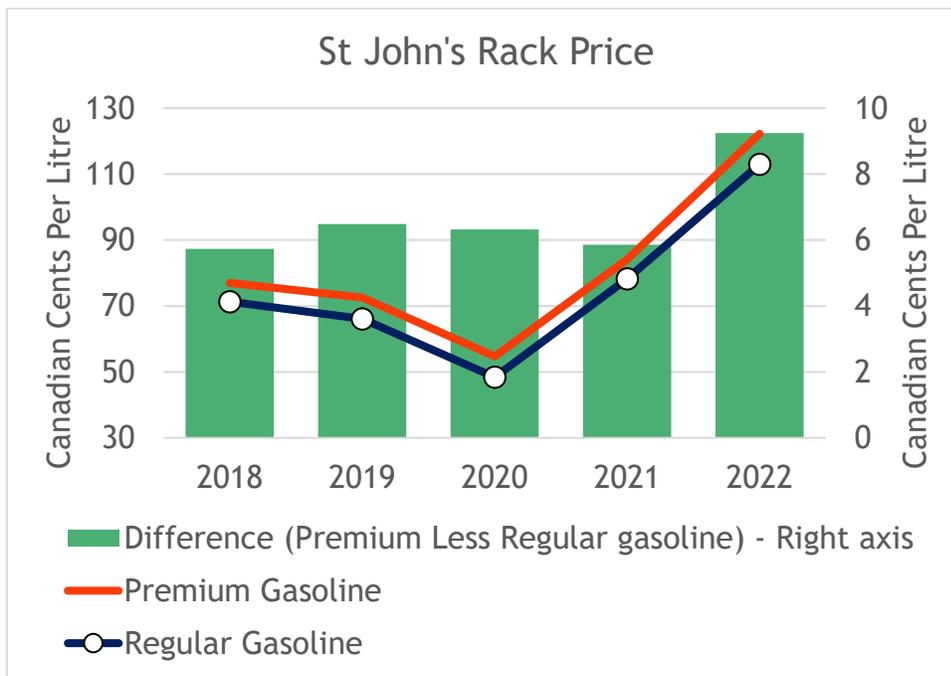
<sup>19</sup> These contracted transactions are often based on a rack price with some adjustment, either a discount or premium to rack, depending on the specifics of that transaction.

<sup>20</sup> Premium gasoline price at St John's is usually higher than at NYH due to the cost of transportation between the two market hubs.

premium and regular gasoline). In the current regulations, the premium gasoline price spread to regular gasoline cannot exceed a fixed price differential and this is discussed in detail later in the report.

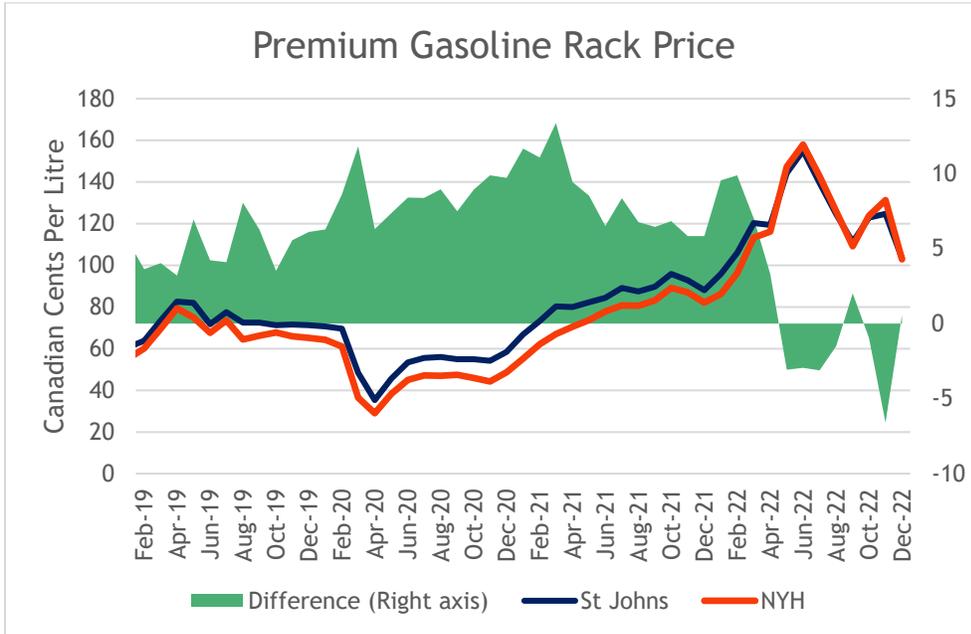
2. We observed that the rack price differentials between premium and regular gasoline widened in St John's in 2022 but were still consistently below the rack price at NYH (Figure 9). This situation is not unique to Newfoundland and Labrador. A similar trend exists in other Atlantic Provinces that regulate the price spread between premium and regular gasoline prices with a fixed price differential. The higher price spread in 2022 was influenced by Russia's war on Ukraine, which distorted both the crude oil and petroleum products markets resulting in higher-than-normal prices for all products, however, the increase in global demand for premium gasoline, especially from Europe, resulted in higher-than-normal price spread between premium and regular gasoline.

Figure 9: New York Harbor Versus St John's Wholesale Premium Gasoline Price



Source: Argus, NLPUB, and Kalibrate Canada.

Figure 10: Premium Gasoline Rack Price Between NYH and St John's



Source: Argus, NLPUB, and Kalibrate Canada.

## Premium and Regular Gasoline Price Spread in Other Regulated Provinces

Currently, four Canadian provinces (Nova Scotia, New Brunswick, Newfoundland and Labrador, and P.E.I) regulate the price spread between premium and regular gasoline prices. A description of the current approaches in these jurisdictions is provided in Table 7.

*Table 7: Premium Less Regular Gasoline Price Spread Across Other Regulated Jurisdictions*

Province	Current Approach (premium less regular gasoline price)	Comments
Nova Scotia	A minimum of 6 cents per litre or price spread between premium and regular gasoline is calculated based on the previous week's average of high and low. For example, the price differential between premium and regular is calculated based on market data from the previous week, but in no case will the price spread between these two gasoline fuel types be less than 6 cents per litre.	The Board recently changed their methodology after conducting a hearing in 2023.
Newfoundland and Labrador	Fixed at 6 cents per litre	The Board is currently in the process of re-evaluating the current fixed price differential.
Prince Edward Island (P.E.I)	Fixed at 6.9 cents per litre but can be amended due to the Board's discretion.	The current price spread is determined by the Board (IRAC). The Board has the discretion to evaluate market changes and differentials when setting its pricing.
New Brunswick	Fixed at 6 cents per litre	The Board is currently in the process of re-evaluating the current fixed price differential.

Source: NSUARB, NLPUB, IRAC, NBEUB, and R Cube Economic Consulting Inc.

## Why Use NYH as the Benchmark Price

As stated earlier, Newfoundland and Labrador currently uses the price of petroleum products at NYH as the preferred benchmark price. This is due to geographical proximity and is consistent with what other neighbouring regulatory regimes are using. Additionally, wholesalers operating in the province use prices at NYH as the preferred price hub for their transactions to import or supply petroleum products in the region. Any switch away from NYH as the benchmark price could deviate from market reality and could be manipulated by the somewhat discretionary nature of local rack prices. Therefore, we recommend using the price at NYH as the preferred benchmark price in the regulatory process while setting maximum wholesale and retail prices.

## Understanding the fixed price differential between Gasoline Fuel Types

Currently, the Board sets the wholesale and retail markups for mid-grade and premium gasoline slightly different from other regulated provinces in Atlantic Canada. Based on the weekly order<sup>21</sup> that determines the weekly maximum prices, R Cube has deduced the existing methodology. Currently, the price adjustments for these grades are adjusted at the benchmark price level, however, there are adjustments made to both the wholesale and retail markup levels. A detailed description of how the markups are adjusted and how it currently impacts the maximum prices are presented below on Table 8 (an example using the weekly order from the Board's website<sup>22</sup>).

Traditionally, motor fuel wholesalers are responsible for meeting product specifications and usually incur the costs of making and supplying these fuels. The wholesalers supply regular and premium gasoline while the mid-grade fuel is blended at the retail site, usually at a one-to-one ratio of regular and premium gasoline. The cost to supply or purchase price of both regular and premium gasoline is usually determined by the benchmark price, in the case of the province of Newfoundland and Labrador, the price at NYH. This would mean premium gasoline should also follow the methodology used to determine regular gasoline. As stated in the previous section, the benchmark price for gasoline is calculated as the average of the highs and lows of the regular unleaded gasoline at NYH, as published by Platts<sup>23</sup>. Further, any adjustment at the wholesale and retail mark-up level may not fully compensate the wholesalers for their costs to supply these fuels in the province of Newfoundland and Labrador.

Therefore, any price differential between regular and premium should be determined only at the benchmark price level, not at the wholesale and retail markup level.

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<sup>21</sup> [Order No PP 71 \(2023\) Schedules.pdf \(pub.nl.ca\)](#)

<sup>22</sup> [Board of Commissioners of Public Utilities](#)

<sup>23</sup> [Board of Commissioners of Public Utilities](#)

So, R Cube recommends to the Board that the price differential (Either fixed or market based) between regular and premium gasoline prices to be determined at the benchmark price level and not at the wholesale and retail markup levels. A detailed breakdown of the existing methodology and the proposed method by R Cube is provided below in Table 8.

Table 8: Total Allowable Markups Gasoline Grades Most Zones (Cents Per Litre)

Total Allowable Markups - Gasoline Grades Most Zones (cents per litre)							
Isolated Zones		Existing Method			Proposed Method		
		Regular-Grade Gasoline	Mid-Grade Gasoline	Premium-Gasoline	Regular-Grade Gasoline	Mid-Grade Gasoline	Premium-Gasoline
<b>Benchmark Price at NYH</b>		<b>100</b>	<b>103</b>	<b>106</b>	<b>100</b>	<b>103</b>	<b>106</b>
<b>Island (Most zones)</b>	Wholesale Markup	15.65	14.26	12.87	15.65	15.65	15.65
	Retail Markup	10.28	10.28	10.28	10.28	10.28	10.28
	Additional Retail Markup (Grade)		1	2			
	<b>Total Allowed Markup</b>	<b>25.93</b>	<b>25.54</b>	<b>25.15</b>	<b>25.93</b>	<b>25.93</b>	<b>25.93</b>
<b>Labrador (Most zones)</b>	Wholesale Markup	10.65	9.26	7.87	10.65	10.65	10.65
	Retail Markup	10.28	10.28	10.28	10.28	10.28	10.28
	Additional Retail Markup (Grade)		1	2			
	<b>Total Allowed Markup</b>	<b>20.93</b>	<b>20.54</b>	<b>20.15</b>	<b>20.93</b>	<b>20.93</b>	<b>20.93</b>

Source: Argus, NLPUB, and R Cube Economic Consulting Inc.

## The Price Spread between the Benchmark Premium and Regular Gasoline Price

The primary objective of this section of the report is to review and validate whether the current fixed price differential between premium, mid-grade, and regular gasoline prices<sup>24</sup>, as set out by the regulations within Newfoundland and Labrador, is an accurate representation of the market. We have used the historical benchmark and price data provided by the Board over the last four years (2019-2022) to determine if the current fixed price spread or an alternative measure is preferred to regulate premium and mid-grade gasoline prices in Newfoundland and Labrador. To analyze this, we used Argus benchmark data provided by the Board and the Newfoundland and Labrador volume-weighted average monthly rack or wholesale price data, as reported by Kalibrate Canada<sup>25</sup>.

To assess the price differential between the regular and premium gasoline markets, we considered the following:

- a) Platts discontinued the premium gasoline price reporting service in 2020; however, both Argus and OPIS still report prices for premium gasoline at NYH. However, in this analysis, R Cube received premium gasoline data only for Argus, therefore, the recommendations are based on using only Argus data.
- b) Based on our experience and analysis with other regulated jurisdictions (NSUARB and NBEUB) we can say that the prices reported by Argus and OPIS are generally close and have smaller deviations between their prices.
- c) The Board provided R Cube with the daily price data from Argus for regular and premium gasoline between 2019 and 2022 (the evaluation period). The year 2023 was not considered in this analysis due to the unavailability of data.
- d) The daily data provided were in US cents per gallon, and so we took daily data as reported by these agencies and converted it to Canadian cents per gallon by multiplying it with the daily foreign exchange data published by the Bank of Canada<sup>26</sup>.
- e) We converted the daily data from Canadian cents per gallon to Canadian cents per litre, by dividing the cents per gallon by a conversion value of 3.78541<sup>27</sup>.
- f) The benchmark price defined by the Board is the average of the high and low of regular unleaded gasoline. We used the same approach to calculate the premium gasoline price at NYH.
- g) We calculated the price differential between premium and regular gasoline prices as reported by Argus.
- h) We observed that the price difference between premium gasoline prices at NYH widened significantly between 2018 and 2022 (Figure 11 and Table 9). We also

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<sup>24</sup> Price differential between premium and regular gasoline to be at 6 cents per litre [NLR 79/01 - Petroleum Products Regulations under the Petroleum Products Act \(assembly.nl.ca\)](#)

<sup>25</sup> We used the rack price in New Brunswick (volume-weighted) as reported by Kalibrate Canada /NRCan, for the data access link here ([Kalibrate](#))

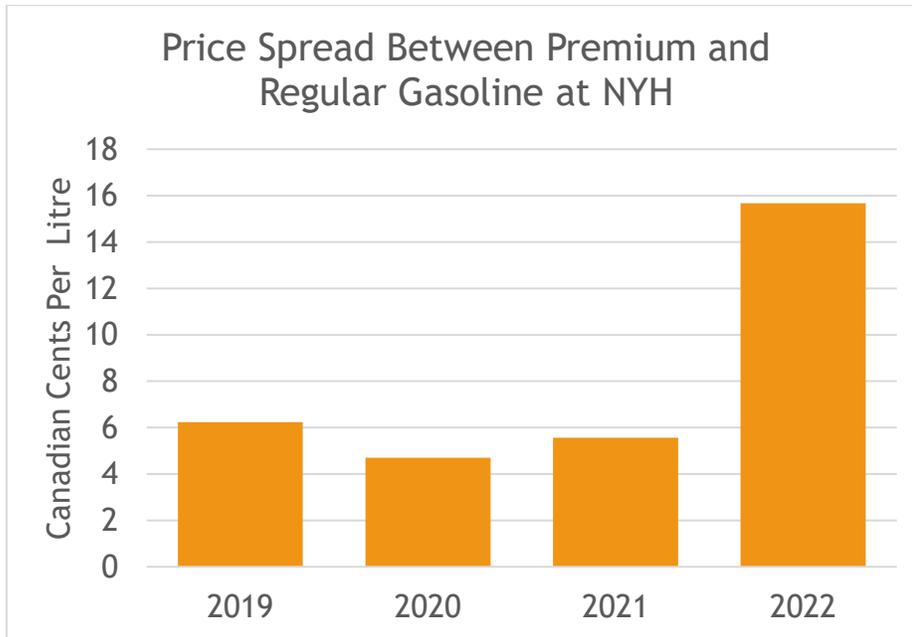
<sup>26</sup> [Daily exchange rates - Bank of Canada](#)

<sup>27</sup> [Energy conversion calculators - U.S. Energy Information Administration \(EIA\)](#)



observed that the price spread between premium and regular gasoline is wider at NYH than at St John's. This would mean that the wholesalers are likely selling the product below a market-derived price, thereby resulting in a loss of revenue (Table 9).

Figure 11: Price Spread Between Premium and Regular Gasoline Price at NYH



Source: Argus, NLPUB, and R Cube Economic Consulting Inc.

Table 9: Premium Less Regular Gasoline

Year	NYH	St John's
2019	6.23	6.48
2020	4.69	6.33
2021	5.57	5.86
2022	15.67	9.25

Source: Argus, NLPUB, Kalibrate Canada, and R Cube Economic Consulting Inc.

Table 10: St John's Gasoline Rack Price

St John's Gasoline Rack Price			
	Premium Gasoline	Regular Gasoline	Difference (Premium Less Regular gasoline)
2018	77.03	71.3	5.73
2019	72.58	66.1	6.48
2020	54.73	48.4	6.33
2021	84.16	78.3	5.86
2022	122.25	113	9.25

Source: Kalibrate Canada, NLPUB, and R Cube Economic Consulting Inc.

- i) The average price spread between premium and regular gasoline at NYH based on information reported by Argus shows that this spread increased from 6.23 cents per litre in 2019 to 15.67 cents in 2022, but dipped to 4.69 cents per litre in 2020, due to COVID-19. As stated earlier, the abnormal increase in the 2022 price spread was caused by Russia's war in Ukraine and higher refinery margins for premium gasoline due to strong demand for the product.
- j) A similar pattern exists in the price spread between premium and regular gasoline at St John's, where the spread is much larger in 2022 compared to other years (Tables 9 and 10).
- k) The price spread between premium and regular gasoline at NYH is increasingly volatile and deviated from historical norms. The Board's current regulatory spread of a maximum of 6 Canadian cents per litre does not reflect or accommodate these market changes and may pose a risk to the supply of premium gasoline fuel in Newfoundland and Labrador. Wholesalers may be forced to absorb higher costs when the price spread between premium and regular gasoline at NYH exceeds the regulatory maximum of 6 Canadian cents per litre. The same can be said about mid-grade gasoline, although prices are not published for this grade at NYH by any price reporting agencies.
- l) As noted, during 2022, the average price spread between premium and regular was 15.67 Canadian cents per litre, which is well above the maximum regulatory spread of 6 cents per litre and likely caused margin issues for wholesalers and retailers buying or selling those products. A similar pattern is also observed between the premium and regular unleaded gasoline rack prices at St John's (Prices are reported daily by Kalibrate Canada) (Table 9).

## Recommendations

1. We observed that the price differential between premium and regular gasoline was increasingly volatile and deviated from historical levels in recent years. This widening price differential can not be fully accommodated in Newfoundland and Labrador’s regulated 6 cents per litre maximum spread. This has likely reduced margins for the province’s fuel suppliers, particularly in 2022.
2. To account for these issues, we evaluated three alternatives to the existing fixed price differential methodology and recommended the option that minimized volatility while still representing the relative change in market values for regulated products.
3. The two most reasonable measures of volatility are standard deviation and coefficient variation. According to the National Library of Medicine, "Standard deviation (or  $\sigma$ ) measures how dispersed the data is to the mean. Low standard deviation means data are clustered around the mean, and high standard deviation indicates data are more spread out"<sup>28</sup>. Whereas the coefficient of variation is the standard deviation divided by the mean. As referred to by the European Commission, "The coefficient of variation (CV) is the ratio of the standard deviation to the mean and shows the extent of variability to the mean of the population. The higher the CV, the greater the dispersion"<sup>29</sup>.
4. We calculated the coefficient of variation of five-day, fifteen-day and thirty-day moving averages for the price differential between premium and regular gasoline as published by Argus (See Table 11).

Table 11: Argus - Premium Less Regular Gasoline at NYH Coefficient of Variation

Coefficient of Variation			
Year	Five Day Moving Average	Fifteen Day Moving Average	Thirty Day Moving Average
2019	22%	19%	14%
2020	34%	31%	27%
2021	42%	42%	41%
2022	55%	54%	52%

Source: Argus, and R Cube Economic Consulting Inc.

<sup>28</sup> [Standard Deviation \(nih.gov\)](https://www.nlm.nih.gov/medlineplus/ency/article/000025.htm)

<sup>29</sup> [Coefficient of Variation - European Commission \(europa.eu\)](https://ec.europa.eu/economy_finance/press_corner/press_releases/pr_130810_en.htm)

5. Low values for the coefficient of variation (how far the data deviates from its mean) are indicative of lower volatility. A focus on price stability would mean choosing an option with the lowest coefficient of variation. However, if the gap between the coefficient of variation values is small, it would be practical to select the option representing a shorter duration, thus reflecting more recent changes in value (for example, a five-day moving average rather than a thirty-day moving average). This approach effectively ensures that current market conditions are reflected in the regulatory approach to pricing without introducing significant day-to-day price volatility.
6. We observe with Argus data that the coefficient of variation is lowest for the thirty-day moving averages. However, the difference in coefficient of variation between the five-day and the thirty-day moving average ranges only between 1% and 7%. This indicates that the volatility of using a five-day moving average is not significantly greater than a thirty-day moving average method to establish a price differential between premium and regular gasoline prices.
7. Therefore, we recommend that the benchmark price spread between premium and regular gasoline be based on a five-day moving average of the price spread between premium and regular prices at NYH. This approach balances the accommodation of market changes without introducing significant additional price volatility.
8. We also recommend that the price spread between mid-grade and regular gasoline be half of the price spread between premium and regular gasoline.
9. Recently, the NSUARB changed their regulations for the price differential between premium and regular gasoline using the recommendations provided by R Cube, an independent consultant and expert in the hearing. In June 2023, after the public hearing, the Board introduced a new formula to calculate the price spread between premium and regular prices to be a minimum of 6 cents per litre or the price spread between premium and regular gasoline based on the previous week's average of high and low. The minimum of 6 cents per litre provides a baseline return for the suppliers of the regulated fuel and minimizes the threat of disruption to the supply of the product.
10. Using the NSUARB decision on matter M10853 and our analysis above, we recommend that the Board use a similar approach, i.e., a minimum of 6 cents per litre or price spread between premium and regular gasoline calculated based on the previous week's average using the existing Board's formula for regular gasoline. For example, if the previous week's average price for premium and regular gasoline were 80 and 70 cents per litre, respectively, then these average prices would be used to determine the maximum wholesale and retail prices for premium and regular gasoline as the spread is greater than 6 cents per litre. However, if the price spread between premium and regular gasoline is less than 6 cents per litre, we recommend to the Board that a minimum of 6 cents per litre be applied to incent suppliers of the fuel and to reduce any potential risk to the supply of higher-grade fuels in the province.

## Zonal Retail Margins

The regulations currently permit different maximum retail margins for specific zones. A summary of all retail margins for different products and zones is presented in Table 12. It is our understanding that analyzing distribution costs incurred by retailers across different zones could be a valid way to confirm the differences in required retail margins across zones. As part of the retail survey, we requested information on volumes and unit distribution costs. Six retailers provided data to support this analysis. However, some of the submissions were incomplete, meaning that some submissions contained information on distribution costs but not volumes and vice versa. This made calculating volume-weighted average distribution cost difficult for this exercise. Despite this issue, we estimate a simple average distribution cost based on submissions by retailers. This is presented in Table 13 (gasoline and diesel). Not many retailers submitted information for furnace oil, stove oil, and propane, making it difficult to analyze distribution costs for these products.

*Table 12: Summary of Retail and Total Allowed Mark-Ups (Cents Per Litre)*

Summary of Retail and Total Allowed Markups (cpl)			
Product	Applicable Zones	Retail Margins	Total Allowed Margins
Regular Gasoline	Most Zones	10.28	25.93
	Zones 4a and 7b	12.67	28.32
	Zones 10, 11, 12, 13 and 13a	10.28	20.93
	Zones 11a, 11b and 14	12.67	23.32
Diesel	Most Zones	14.03	28.1
	Zones 10, 11, 11a, 11b, 12, 13, 13a and 14	14.03	24.1
Furnace Oil	Most Zones	18.27	27.38
	Zones 4a and 7b	16.27	27.38
Stove Oil	Most Zones	20.28	32.39
	Zones 4a and 7b	16.78	32.39
	Zones 10, 11, 12, 13 and 13a	20.28	28.39
	Zones 11a, 11b and 14	12.9	28.39
Propane	Most Zones		63.09
	Zones 1ANE, 1ANW, 1AS, 1a and 2		71.59
	Zones 3, 3a, 3b and 3c		68.09
	Zones 12, 13 and 13a		51.09

Source: NLPUB and R Cube Economic Consulting Inc.

Table 13: General distribution costs to the retail site (Cents Per Litre)

General distribution costs to the retail site (Cents Per Litre)				
Zone		Average Cost Per litre (Retailers)	Current Retail Markup Gasoline	Current Price Differential
1	Avalon Peninsula	0.21	10.28	0
1a	Bell Island	0.98	10.28	0
2	Burin Peninsula / Bonavista Peninsula	1.96	10.28	0
3	Central Newfoundland / Notre Dame Bay East	1.94	10.28	0
3a	St. Brendan's (Island)	1.92	10.28	0
3b	Fogo Island	1.92	10.28	0
3c	Change Islands	1.92	10.28	0
4	Connaigre Peninsula	0.98	10.28	0
4a	Gaultois / McCallum / Rencontre East	0.98	12.67	2.39
5	Springdale - Green Bay / Triton / Baie Verte Peninsula	1.58	10.28	0
5a	Long Island	1.58	10.28	0
5b	Little Bay Islands	1.58	10.28	0
6	Deer Lake / Corner Brook / Bay of Islands / Gros Morne	0.00	10.28	0
7	Stephenville / Port au Port / Codroy Valley / Channel-Port aux Basques / Burgeo	1.36	10.28	0
7a	Ramea	1.35	10.28	0
7b	Grey River / François / Grand Bruit / La Poile	1.35	12.67	2.39
8	Northern Peninsula - Gros Morne National Park to Bellburns	1.68		0
9	Northern Peninsula to Englee and St. Anthony	1.97		0
10	Labrador - The Straits to Red Bay	3.58		0
11	Labrador South - Lodge Bay / Cartwright			0
11a	Coastal Labrador South - Tanker Supplied		12.67	2.39
11b	Coastal Labrador South - Drum Delivery			0
12	Central Labrador	0.00		0
13	Western Labrador	3.58		0
13a	Churchill Falls	3.58		0
14	Coastal Labrador North	3.58	12.67	2.39

Source: NLPUB and R Cube Economic Consulting Inc.

*Based on the evidence presented by retailers regarding their distribution costs across different zones in Newfoundland and Labrador, we observed that distribution costs in specific zones are higher than the differences in current zone-specific retail margins. In some instances, the zonal distribution costs are much higher than the regulated margin differentials. However, the distribution costs presented in Table 13 were included and accounted for in our analysis of operating costs. Therefore, we recommend that the Board not make any additional changes to the existing retail zonal markups.*

## Summary - Findings and Conclusions

### *Phase III (i) - Retail mark-ups for All zones*

Based on our analysis of data submitted by eleven retailers in Newfoundland and Labrador for the evaluation period (between 2019 and 2022 for motor fuels and between 2018 and 2022 for heating fuels), we observed that the volume-weighted retail operating costs of regulated motor fuels (gasoline and diesel) increased by 3.057 cents per litre while heating oil and stove oil increased by 2.660 cents per litre. The change in propane operating costs was 18.541 cents per litre. The data submitted by the retailers was determined to be reasonable and a representative sample of the broader market in Newfoundland and Labrador.

Based on our examination of the submitted and vetted data from retailers, and our method of analysis described above, we observed that acquisition cost increased by 2.985 cents per litre for regular gasoline and by 3.327 cents per litre for premium gasoline over the evaluation period (2019-2022). Additionally, we observed that for diesel the acquisition cost also fell by 0.677 cents per litre between 2019 and 2022 (Table 2), and the acquisition cost for heating oil increased by 0.355 cents per litre over the evaluation period (2018 and 2022). We are also unable to recommend a change to the total margins for mid-grade gasoline, stove oil, and propane due to a lack of adequate submissions.

We recommend using both operating and acquisition costs components for motor fuels and heating oil while setting the retail mark-ups, despite the later including a R Cube estimated tax deduction component due to complexity in the data submitted.

Since operating costs are independent of acquisition cost differentials, we recommend that, both components are added together and be applied to the current retail mark-ups. For example, for regular gasoline, the net change of 6.042 cents per litre consisting of 3.057 cents per litre representing operating costs, and 2.985 cents per litre representing acquisition costs, be used together to increase the retail mark-up from the current level of 10.28 (retail margin from the 2019 base year) to 16.322. Similarly, we recommend the same process be implemented for all regulated fuels in the province. A summary of changes to retail margins for all products is presented in Table 3 in this report.

### *Phase III (ii) - Review of full-service differentials and applicability*

Due to a lack of submissions by retailers regarding full-service costs and operations in Newfoundland and Labrador, we are unable to make a recommendation on this item due to inadequate data.

### *Phase III (iii) - Review of transaction (e.g., credit card) fees and approaches*

Based on our analysis of the data submitted by retailers, the transaction fee cost component is subject to increased volatility due to general price fluctuation of the base product, and since this cost typically moves independently of other cost components, there is a case to treat this cost component separately in the regulations. We recommend some options to the Board. The first is to conduct more frequent or regular margin reviews (such as annual reviews), in which case transaction fees (credit card fees and surcharges) could simply be handled as any other operating cost, and the related adjustments could be incorporated in the analysis of broader operating cost changes in those reviews. The second option, in the absence of more frequent margin reviews, we recommend that the Board look at an indexation of retail motor fuel prices (gasoline and diesel prices). Given the high correlation between these variables and credit card fees and surcharges (See Tables 5 and 6), using this correlation as a base, we propose an indexing method based on weights for gasoline and diesel prices to adjust for changes in transaction fees. We recommend that the Board implement these options as long as it is within its jurisdiction.

### *Phase III (iv) - Adjustments to retail mark-ups*

In this review, we observed that the current review for retail margin adjustments occurred almost five years after the prior review, and changes in retail margins have not occurred frequently throughout the history of Newfoundland and Labrador's regulation of petroleum prices, while costs associated with retail operations have been increasing at a fairly steady pace. Based on this observation and our discussions with retailers in the province, we recommend that the Board consider conducting margin adjustment reviews with increased and regular frequency, preferably annually.

### *Phase III (v) - Methodology for notice of maximum price adjustments*

After conversations with retailers and considering information gathered through the review process, we recommend to the Board that the current weekly process to set maximum prices continue; however, we recommend the Board consider switching the weekly adjustments to set maximum prices to align with the timing used by all other regulated regimes in Atlantic Canada. A majority of retailers we interviewed preferred alignment of the timing of regulated price changes between Atlantic provinces, suggesting that it leads to more operational efficiency.

### *Phase III (vi) - Minimum pricing methodology and approaches*

Our survey of retailers suggests that an overwhelming majority prefer a switch to implement minimum and maximum price regulation. However, there are potential risks to the implementation of minimum pricing. A move to minimum price regulation can inhibit lower cost retailers (such as big box marketers) from operating in the province and could ultimately lead to higher prices for consumers. Generally, operating under both minimum and maximum price regulation limits competition (based on price) and while it can reduce price volatility, it can result in consumers paying more than they would under a regulatory framework without a price floor.

### *Phase III (vii) - Mid-grade and premium gasoline benchmarking and wholesale and retail mark-up allocations*

The Board currently uses a fixed price differential between regular and mid-grade and premium gasoline by adjusting the benchmark price levels. However, the current methodology also involves adjusting both wholesale and retail total allowable markups. R Cube believes that this has the potential to penalize the wholesalers who supply these gasoline grades to market. Therefore, R Cube recommends to the Board that the price differential between regular and premium and mid-grade gasoline prices to be determined only at the benchmark price level and no further adjustments be made to the wholesale and retail markups.

Based on the coefficient of variation methodology (a measure for volatility) on the price spread between premium and regular gasoline (as published by Argus), we recommend the Board use a five-day moving average of the price differential of premium and regular gasoline as reported at NYH to adjust the regulated price differential between premium and regular gasoline. We also recommend that the price spread between mid-grade and regular gasoline be set at half of the price spread between premium and regular gasoline. Recently, the NSUARB changed their regulations for the price differential between premium and regular to be a minimum of 6 cents per litre or the price spread between premium and regular gasoline based on the previous week's average of high and low. We recommend a similar approach to be implemented in Newfoundland and Labrador as this formula helps achieve price stability for fuel sellers and improves the security of supply for premium gasoline in the province.

## Appendix A

### R Cube Economic Consulting Inc Credentials

- We are specialists and cover the entire value chain of the petroleum industry (upstream and downstream petroleum).
- Our extensive experience with market analysis and previous regulatory work in the petroleum product markets has a long reputation among stakeholders for its impartial and data-based approach.
- We are industry experts in petroleum economics. We often provide interviews, presentations, and seminars to various stakeholders on the subject of the North American petroleum industry).
- We have extensive experience in regulated petroleum markets. We have recently conducted or are currently engaged in several margin reviews in Atlantic Canadian markets.
- Vijay Muralidharan (Vijay), the Owner and Director at R Cube Economic Consulting Inc. has over 19 years of work experience in petroleum industry consulting, upstream and downstream for both oil and gas companies and central banking (Macroeconomic forecasting). Vijay has a Master's in economics and a Master of Science in Resource economics from the University of Alberta, Canada. Over the years, Vijay has acquired and developed extensive knowledge in upstream and downstream market fundamentals, margin review analysis, macroeconomic forecasting, and investment analysis within the petroleum industry.