



NEW BRUNSWICK
ENERGY & UTILITIES BOARD

COMMISSION DE L'ÉNERGIE ET DES SERVICES PUBLICS
NOUVEAU-BRUNSWICK

DECISION

IN THE MATTER OF the establishment of a mechanism to set the cost of carbon adjustor pursuant to section 13.2 of the *Petroleum Products Pricing Act*, S.N.B. 2006, c. P-8.05 and section 13.2 of the *General Regulation – Petroleum Products Pricing Act*, N.B. Reg. 2006-41.

(Matter No. 549)

June 13, 2023

Matter 549 – Cost of Carbon Adjustor

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ORAL HEARING: April 25, 2023

NEW BRUNSWICK ENERGY AND UTILITIES BOARD:

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	Christopher Stewart

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1 Introduction and Summary Conclusion

- [1] This decision arises out of the need for the Board to establish a mechanism to set the "cost of carbon adjustor" as required by section 13.2 of the *Petroleum Product Pricing Act* (the "PPPA") and section 13.2 of the *General Regulation – Petroleum Product Pricing Act* (the "General Regulation"). The cost of carbon adjustor will form an additional component utilized by the Board when calculating maximum petroleum product prices under the PPPA.
- [2] The Board sets the formula as described in Appendix "A" as the basis for calculating the cost of carbon adjustor on an interim basis and will conduct a review not later than early in 2024 to determine its ongoing appropriateness.

2 Overview

- [3] The need to set a cost of carbon adjustor results from recent legislative changes at both the federal and provincial levels.
- [4] In June 2022, the federal government enacted the *Clean Fuel Regulations* under the *Canadian Environmental Protection Act*. The *Clean Fuel Regulations* are designed to increase incentives for developing and adopting clean fuels, technologies and processes.
- [5] The stated goal of the *Clean Fuel Regulations* is to significantly reduce pollution by making the fuels "cleaner" over time. They require primary suppliers (importers and operators of domestic production facilities) of liquid petroleum fuels (gasoline and diesel) to gradually reduce the carbon intensity from the fuels they produce and sell for use in Canada over time.
- [6] The carbon intensity of a fuel is a measure of the greenhouse gas emissions from the extraction, refining, distribution and use of the fuel. In July 2023, the carbon intensity reduction requirement for fuel produced in, or imported into, Canada will start at 3.5 gCO_{2e}/MJ. This reduction requirement will increase by 1.5 gCO_{2e}/MJ each year, reaching 14 gCO_{2e}/MJ in 2030, leading to a decrease of approximately 15% (below 2016 levels) in the carbon intensity of gasoline and diesel used in Canada. To achieve these reductions, primary suppliers will need to provide innovative solutions.
- [7] By moving to a regulatory approach which focuses on emissions throughout the lifecycle of fuels, the federal government has chosen to follow an approach similar to what exists in British Columbia, California, Oregon and other jurisdictions.

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- [8] The *Clean Fuel Regulations* seek to target transformative change to how fuels are produced and used in Canada. Production costs for primary suppliers will increase, which will also increase prices for consumers. On the other hand, credit revenues should decrease production costs for low-carbon energy suppliers, which should make low-carbon energy sources (e.g., biofuel and electricity) relatively less expensive to access and use. The intended result of these price effects is decreased end-use demand for fossil fuels and increased end-use demand for lower carbon energy sources.
- [9] The *Clean Fuel Regulations* also contemplate a credit market designed to drive innovation at a lower cost. Regulated parties (producers and importers of gasoline and diesel) must create or buy credits to comply with the reduction requirements. Parties with extra credits can bank them for use in later years or sell them.
- [10] The annual carbon intensity reduction requirement can be met through the creation of compliance credits through three categories:
- a. undertaking projects that reduce the lifecycle carbon intensity of liquid fossil fuels, for example, carbon capture and storage, on-site renewable electricity and co-processing;
 - b. supplying low-carbon fuels, such as ethanol and biodiesel; and
 - c. supplying fuel or energy to advanced vehicle technology, such as the use of electricity or hydrogen in vehicles.
- [11] When a primary supplier cannot generate sufficient compliance credits, the *Clean Fuel Regulations* include provisions creating a market-based credit trading system which will be used. This credit trading system is open to all primary suppliers and other participants, to be known as voluntary credit creators. Primary suppliers can achieve compliance using this Credit Clearance Mechanism in the *Clean Fuels Regulations* or link to other credit generators through direct agreements. They may also obtain credits through contributions to a registered compliance fund up to 10% of their annual carbon intensity reduction obligation.
- [12] On December 16, 2022, the Province of New Brunswick amended both the *PPPA* and the *General Regulation* to add a new "cost of carbon adjustor" component to the maximum petroleum prices set by the Board. This cost of carbon adjustor is intended to mitigate the effect of costs incurred by primary suppliers of liquid petroleum products to comply with the new federal carbon intensity standards imposed by the *Clean Fuel Regulations* for wholesalers and retailers.

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- [13] As above, the *Clean Fuel Regulations* require primary suppliers to incur costs to reduce the carbon intensity of liquid petroleum fuels. As part of the overall regime, primary suppliers can achieve this by investing in renewable fuels and "green" infrastructure, making those alternatives more available and cost-efficient, while passing on those costs to the end-users of traditional petroleum fuels, making those fuel options less attractive.
- [14] In New Brunswick, the Board is now mandated to set a cost of carbon adjustor to reflect these additional costs and include them as a new component of petroleum pricing so those new compliance costs flow through to the end-user.
- [15] Other than the broad general statement of intent that the new cost of carbon adjustor should be set to mitigate the compliance costs passed through to wholesalers and, in turn, retailers of liquid petroleum products, the recent amendments to the *PPPA* and the *General Regulation* do not set a mechanism to determine the amount of the cost of carbon adjustor. Rather, the Board is mandated to establish a mechanism considering any relevant information, including written submissions from industry stakeholders and the Public Intervener, conclusions drawn from the credit markets under the *Clean Fuel Regulations*, the cost of renewable fuel, wholesaler and retailer costs, and any other information relevant to the application of the *Clean Fuel Regulations*.
- [16] It should be noted for clarity that the new cost of carbon adjustor and the *Clean Fuel Regulations* are entirely separate and different from the so-called "carbon tax" regime established pursuant to other legislation, including the federal *Greenhouse Gas Pollution Pricing Act* set to be effective in New Brunswick as of July 1, 2023.

3 The Issues

- a. What mechanism should the Board adopt to set the cost of carbon adjustor?
- b. Should this mechanism be adopted on an interim basis and what, if any, review of the new mechanism should occur and when?

4 Process to Determine Cost of Carbon Adjustor Mechanism

- [17] Further to the amendments to the *PPPA* and the *General Regulation*, on December 20, 2022, the Board issued an Order which set the cost of carbon adjustor at zero cents per litre. Board Staff was also ordered to identify and retain an expert consultant to examine potential approaches to a mechanism and file a report concerning the criteria and procedure to be followed.

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- [18] The Board published a public notice seeking written submissions from primary suppliers, wholesalers, retailers, other interested parties and the Public Intervener on the methodology to be utilized in setting the cost of carbon adjustor. The deadline to do so was initially set for February 15, 2023, but was extended until March 6th.
- [19] Grant Thornton was engaged by Board Staff to conduct a review and provide recommendations regarding establishing a cost of carbon adjustor. Grant Thornton conducted an extensive review and consultation process with industry stakeholders and reviewed possible methods of setting a cost of carbon adjustor in New Brunswick. A report was filed on March 6th (the “Grant Thornton Report”).
- [20] The Board also received written submissions from the Canadian Fuels Association, the Convenience Industry Council, Imperial Oil and the Acting Public Intervener.
- [21] Upon initial review of the Grant Thornton Report and the written submissions received, the Board determined that it would be appropriate to hold a public hearing and to allow interested parties to ask written clarifying questions to Grant Thornton on the contents of its report in advance of the hearing.
- [22] On March 28th, the Board directed interested parties to pose clarifying questions in writing by April 11th, with Grant Thornton being directed to provide written responses by April 18th. Board staff, Imperial Oil and the Canadian Fuels Association asked additional written questions, and Grant Thornton provided answers as scheduled. A public hearing was set for April 25th.
- [23] Ms. Angie Brown, a partner with Grant Thornton and primary author of the Grant Thornton Report, was called to testify at the hearing. She was qualified as an expert witness in petroleum product models, carbon compliance credit markets and cost of carbon adjustor mechanisms relating to carbon reduction initiatives in liquid fossil fuels. Ms. Brown was questioned by counsel for Board staff, a representative of Imperial Oil, the Public Intervener and the Board.

5 Grant Thornton's Findings, Observations and Recommendations

- [24] For the reasons below, the Board adopts a three-step cost of carbon adjustor formula as presented by Grant Thornton on an interim basis.
- [25] In its report, Grant Thornton noted that provinces in Atlantic Canada may be more negatively affected by the *Clean Fuel Regulations*. It is estimated that the Atlantic Provinces have fewer opportunities to create credits from actions along the lifecycle of

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fuels. For example, there are fewer opportunities for carbon capture and storage, and baseline electric vehicle and low-carbon fuel uptake is lower in Atlantic Canada.

[26] Grant Thornton believed that compliance in Atlantic Canada would be primarily achieved initially by supplying low-carbon fuels through blending and importing renewable diesel, which is currently not produced in Canada. Renewable diesel can be produced from various biomass sources and is fully compatible with existing engines and infrastructure. Grant Thornton stated that importing renewable diesel will require participants in Atlantic Canada to compete globally based on changing supply and demand conditions at the time. While renewable diesel does not require significant capital investment for blending, it is expensive to source, with its value primarily set by the California Low Carbon Fuel Standard.

[27] The primary findings and recommendations of the Grant Thornton Report were underscored and expanded by Ms. Brown during her testimony. She testified that:

- a. The Canadian market for carbon credits and information about potential compliance options are rapidly evolving but are immature and illiquid. Until the carbon credit market in Canada becomes more liquid, an interim cost of carbon adjustor mechanism was prudent. In Ms. Brown's view, there may be greater certainty in the availability and pricing of carbon credits in 18 to 24 months. She recommended a review of any mechanism established by the Board every six months to determine its ongoing appropriateness based on both current market conditions as well as the evolution carbon credit trading systems in Canada.
- b. On an interim basis, the California Low Carbon Fuel Standard is a reasonable proxy for market pricing for the import value of renewable diesel and, in turn, the incremental cost of compliance with the *Clean Fuel Regulations* in New Brunswick.
- c. A three-step cost of carbon adjustor formula mechanism should be adopted. This formula calculates the difference between the price of renewable diesel and low-sulfur diesel in Canadian Dollars. It converts the resulting credit price per litre to a credit price per tonne and applies the resulting price by fuel type (low-sulfur diesel and gasoline). The resulting amount becomes the carbon adjustor component cost for motive fuels' price setting under the PPPA.

[28] No party, including the Public Intervener, took issue with these recommendations; indeed, they were endorsed, particularly on an interim basis.

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[29] After thoroughly reviewing all the filed materials and Ms. Brown's testimony, the Board adopts these recommendations. It establishes the formula and its inputs attached as Appendix "A" as the initial mechanism for setting the cost of carbon adjustor component of maximum motor fuel prices calculated according to the *PPPA* and the *General Regulation*.

6 Other Related Issues

6.1 Timing

[30] Compliance with the *Clean Fuel Regulations* carbon intensity reduction requirements begins on July 1, 2023. Accordingly, a new cost of carbon adjustor will be calculated on the first regular weekly price setting following July 1, 2023. A new adjustor will be calculated weekly in accordance with the formula in Appendix "A" with current inputs as described therein and shall serve as the cost of carbon adjustor component going forward.

6.2 Public Awareness

[31] Grant Thornton and industry stakeholders have expressed concerns with what may be a lack of public understanding of the basis of the cost of carbon adjustor and the inevitable price increases which will result. The Board shares these concerns.

[32] The amount of the adjustor will be significant. A sample calculation performed by Grant Thornton resulted in an increase of 8 cents per litre. While this amount is only a sample at a particular moment, and there will be some variables on each weekly calculation, it is indicative.

[33] It is also clear that the increasing annual reductions in carbon intensity required by the *Clean Fuel Regulations* each year until 2030 will only have upward pressure on the adjustor amount over time. The Board will do what it can to describe its mandate and the background of the new cost of carbon adjustor component when setting maximum petroleum prices. However, all industry stakeholders are urged to work to enhance public understanding of the basis of the new adjustor.

[34] In addition, Board staff is directed to post the formula in Appendix "A" on the Board's website along with background information designed to assist with public understanding.

6.3 Review

- [35] The Board shares Grant Thornton's view that utilizing the current formula is an interim measure requiring review every six months, at least initially.
- [36] The first review will occur no later than early 2024 and will include, among other things, the appropriateness of including a published freight cost in the formula, as raised by Imperial Oil during the hearing and acknowledged as potentially appropriate in principle by Ms. Brown during her testimony. In the interim, the Board will closely monitor the resulting calculations, other related market conditions and the evolution of carbon credit trading systems in Canada.

6.4 Heating Fuel

- [37] Section 4 of the *PPPA* requires the Board to include the cost of carbon adjustor for each type of heating fuel and motor fuel. However, the adjustor is designed to mitigate additional costs incurred by primary suppliers to comply with the *Clean Fuel Regulations*, which will flow through to wholesalers and retailers in New Brunswick.
- [38] The latest version of the *Clean Fuel Regulations* removed the carbon intensity reduction requirements on heavy fuel oil, light fuel oil and kerosene. They also exclude gasoline and diesel used for space heating. In short, there should be no compliance costs incurred by primary suppliers for these fuels. The carbon adjustor cost will remain set at zero for heating fuel sold in New Brunswick, subject to further consideration in future reviews of the mechanism.

6.5 Additional Letters of Comment

- [39] The Board has received a letter from The Honourable Steven Guilbeault, federal Minister of the Environment and Climate Change dated May 25, 2023 as well as a second unsigned document from Environment and Climate Change Canada purporting to be feedback on reports filed with the Nova Scotia Utilities and Review Board, including a report from Grant Thornton. The Board receives these documents as letters of comment only and copies have been posted on the Board's website with the other letters of comment from stakeholders. Among other things, Minister Guilbeault encouraged the Board to assess the cost of the full suite of compliance options available to primary suppliers. The formula to set the cost of carbon adjustor established by this decision is on an interim basis only. It is based on the uncontradicted expert evidence of an independent consultant and utilizes an approach supported by the Public Intervener. However, as above, the formula will

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undergo a thorough review in no more than six months and may be adjusted as additional data and information becomes available to the Board. Should Environment and Climate Change Canada, or any other party, wish to submit evidence for the Board’s consideration as part of that review process, they are welcome to do so. In the interim, the Board will monitor the situation closely, including the evolution of carbon credit trading systems, which should be reflective of the cost of a broader range of compliance options, but which is not reliably available to the Board at this time.

7 Conclusion

[40] The Board establishes the formula and its inputs attached as Appendix “A” as the initial mechanism for setting the cost of carbon adjustor component of maximum motor fuel prices calculated according to the *PPPA* and the *General Regulation*. No later than early in 2024, the Board will conduct a review of the ongoing appropriateness of the various aspects of the formula, based on both current market conditions as well as the evolution of carbon credit trading systems in Canada.

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Dated at Saint John, New Brunswick, this 13th day of June 2023.



John Patrick Herron
Member



Christopher Stewart
Member

Matter 459 - Appendix A (Cost of Carbon Adjustor Calculations)

Step 1 Determine the clean fuels regulation credit price

	Units	Reference	Inputs	Source
California LCFS credit	USD / tonne	A	TBD	Note 1
California low carbon fuels intensity target	gCO2e/MJ	B	TBD	Note 2
California renewable diesel carbon intensity	gCO2e/MJ	C	TBD	Note 3
Difference	gCO2e/MJ	$D = B - C$		
California renewable diesel energy density	MJ / litre	E	34.25	Note 4
Conversion factor		F	1,000,000	Note 5
Exchange Rate (weekly)		G	TBD	Note 6
Low carbon fuels standard credit price	\$CDN / litre	$H = A * D * E / F * G$		
D4 RIN Value	USD / US gallon	I	TBD	Note 7
Renewable diesel RIN equivalence value	USD / US gallon	J	1.7	Note 8
Exchange Rate (weekly)		G	TBD	Note 6
Conversion US gallon to litres		K	3.78541	
D4 RIN Price	\$CDN / litre	$L = I * J * G / K$		
Interim clean fuel credit price	\$CDN / litre	$M = H + L$		

Step 2 Convert the credit price per litre calculated in Step 1 to a credit price per tonne

	Units	Reference	Inputs	Source
Clean Fuels Regulation liquid class reference carbon intensity	gCO2e/MJ	N	TBD	Note 9
Clean Fuels Regulation renewable diesel default carbon intensity	gCO2e/MJ	O	35	Note 10
Incremental carbon intensity	gCO2e/MJ	$P = N - O$		
Clean Fuels Regulation renewable diesel energy density	MJ / litre	Q	34.921	Note 11
Conversion factor		F	1,000,000	Note 12
CFR credit price per tonne	\$CDN / tonne	$R = M / P * Q * F$		

Step 3 Apply the CFR adjustor from Step 2 by fuel type (ULSD & gasoline)

	Units	Reference	Gasoline	ULSD	Source
Clean fuels regulations default (baseline) carbon intensity	gCO2e/MJ	S	95.00	93.00	Note 13
Clean fuels regulations target	gCO2e/MJ	T	TBD	TBD	Note 14
Incremental	gCO2e/MJ	$U = S - T$	3.5	3.5	
Clean fuels regulation energy density	MJ / litre	V	34.69	38.65	Note 15
Conversion factor		F	1,000,000	1,000,000	Note 5
Proposed Cost of Carbon Adjustor	\$CDN / litre	$W = R * U * V / F$			

Notes

1	California Air Resources Board: Weekly LCFS Credit Transfer Activity Report, Average Price (All Non Zero Transfers) (weekly)
2	California Low Carbon Fuel Standard Regulation: Table 2. LCFS Carbon Intensity Benchmarks for 2011 to 2030 for Diesel Fuel and Fuels Used as a Substitute for Diesel Fuel (current year)
3	California Air Resources Board: LCFS Pathway Certified Carbon Intensities, Soybean and Soybean Oil Feedstock for Renewable Diesel (RND) (weekly)
4	Argus Air Daily: Methodology and Specifications Guide, Energy density of renewable diesel (129.65 MJ/gal / 3.7854 = 34.25 MJ/litre) (fixed)
5	Convert tonnes to gCO2e/MJ - divide by 1 million
6	Weekly USD/\$CDN exchange rate (Bank of Canada), corresponding to weekly LCFS Credit Transfer Price (weekly)
7	Weekly average biomass-based diesel (D4) RIN price (current year), Source: Argus Americas Biofuels, corresponding to weekly LCFS Credit Transfer Price (weekly)
8	US Code of Federal Regulations, Equivalence values for renewable fuel, §80.1415(b)(4) (fixed)
9	Clean Fuel Regulations, Schedule 1, Reference Carbon Intensity, Liquid class (current year)
10	Clean Fuel Regulations, Section 170(1), liquid class default carbon intensity (fixed)
11	Clean Fuel Regulations, Schedule 2, Energy Density of Fuels (Item 10 – Hydrogenation-derived renewable diesel) (fixed)
12	Convert gCO2e/MJ to tonnes - multiply by 1 million
13	Clean Fuel Regulations, Section 5(3), Baseline Carbon-Intensity (fixed)
14	Clean Fuel Regulations, Section 5(1), Fuel Carbon-Intensity Limits (current year)
15	Clean Fuel Regulations, Schedule 2, Energy Density of Fuels (Item 9 – Gasoline and Item 13 - Diesel) (fixed)