

B.C. Low Carbon Fuel Standard: Compliance Penalty Discussion Paper

July 5, 2019

Table of Contents

1	Introduction	1
2	Background	2
3	Increasing Penalty Stringency	3
3.1	Raise the Current Penalty	3
3.2	Do Not Forgive Debits	3
4	Compliance Assurance Mechanism	3
4.1	Stage 1: Credit Clearance	3
4.1.1	Managed Credit Clearance	4
4.1.2	Market Credit Clearance	5
4.2	Stage 2: Compliance Assurance Fee	5
4.2.1	Compliance Agreements	6
4.3	Administrative Penalties	6
5	Management of Funds	6
5.1	General Revenue	6
5.2	Special Account	6
Appendix A.	Marginal Cost vs. Average Cost	8
Appendix B.	Other Compliance Assurance Options Considered	9
a.	Debit Carryover	9
b.	Credit Multiplier	9
Appendix C.	References	10

1 Introduction

The *Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act* (Act) and the *Renewable and Low Carbon Fuel Requirements Regulation* (Regulation) are together referred to as the B.C. Low Carbon Fuel Standard (BC-LCFS). The Ministry of Energy, Mines and Petroleum Resources (Ministry) is considering amendments to the BC-LCFS.

The BC-LCFS remains one of the leading emission reduction mechanisms supporting the CleanBC Plan [1]. The purpose of this paper is to discuss potential changes to the compliance

penalty that could alleviate fuel supplier concerns regarding competitiveness, strengthen the long-term stability of the BC-LCFS, and provide a clear and consistent signal to the investment community with respect to low carbon fuels and the British Columbia fuel market. The term “compliance assurance” is used throughout this paper and refers to policy instruments that are intended to achieve these objectives.

The Ministry is seeking feedback on these potential changes. Responses must be in writing and must be submitted by email or mail before 4 p.m. on August 16, 2019 to one of the following addresses:

Email: lcfr@gov.bc.ca

Mail: Low Carbon Fuels Branch
B.C. Ministry of Energy, Mines, and
Petroleum Resources
P.O. Box 9380 Stn Prov Govt
Victoria, B.C. V8W 9M6

This discussion paper and a response form for public and stakeholder comment can be accessed on the Ministry's website at:
<https://gov.bc.ca/lowcarbonfuels>.

The Ministry is concurrently releasing two additional discussion papers:

- 1) A discussion paper regarding potential mechanisms to credit greenhouse gas emissions improvements for fuels produced at fossil-fuel refineries.
- 2) A general discussion paper regarding amendments related to points of compliance, energy effectiveness ratios, new fuel classes, Part 3 Agreement eligibility, and the small supplier exemption.

2 Background

Under the BC-LCFS policy, fuel suppliers must progressively decrease the average carbon intensity of their fuels to achieve a 10% reduction in 2020 and 20% reduction in 2030. The carbon intensity of a fuel represents the greenhouse gas emissions associated with its production and use as determined by a lifecycle assessment, presented in terms of grams of carbon dioxide equivalent per megajoule (gCO₂eq/MJ) of the produced fuel. A lifecycle assessment considers the emissions associated with each stage of a fuel product's life and all materials and energy used from feedstock production or acquisition through fuel use.

A fuel supplier generates credits by supplying fuel with a carbon intensity below the prescribed target, and they incur debits by supplying fuel with a

carbon intensity above the target (e.g. petroleum-based gasoline and diesel). To remain compliant, a fuel supplier must ensure that debits incurred from supplying higher carbon fuels are offset by credits generated from supplying lower carbon fuels. This balance ensures that the greenhouse gas reduction targets prescribed under the BC-LCFS are achieved. A fuel supplier can bank surplus credits if they over-comply with the carbon intensity target in a given year; they can also purchase credits from other fuel suppliers.

Gasoline and diesel consumption in British Columbia surpassed 8.5 billion litres in 2018. As the stringency of the regulated targets increase each year, a litre of gasoline or diesel incurs an increasing quantity of debits. While the supply of credit generating low carbon fuels has steadily increased since the inception of the BC-LCFS, some suppliers have expressed concern that the rate at which credit generation is increasing may not be sufficient to offset the rising debit obligations. This would lead to higher costs of compliance, which would likely lead to higher end-use fuel prices for consumers.

Under the existing legislation, a fuel supplier that is out of compliance in a given compliance period incurs an automatic monetary penalty of \$200 per outstanding debit. The penalty must be paid to government on or before the compliance reporting deadline (March 31). Once the penalty is paid, the outstanding debits are erased, meaning that the Province fails to achieve the expected carbon intensity reductions.

As compliance costs have risen, some fuel suppliers have indicated to the Ministry that they have considered paying the penalty rather than continuing to work towards achieving compliance. Other fuel suppliers have indicated that they perceive compliance as mandatory regardless of cost and feel that those who choose to pay the penalty will have an unfair competitive advantage. To address competitive concerns, the Ministry is

considering stronger compliance penalties so that suppliers do not see failure to comply as a compliance solution. Some stakeholders have suggested that the Ministry could introduce compliance assurance mechanisms that provide all suppliers with an acceptable means for achieving compliance at the same price. Each of these strategies is discussed in more detail below.

3 Increasing Penalty Stringency

Increasing the stringency of the penalty for non-compliance is one strategy for mitigating potentially unfair competitive situations. The Ministry is considering two possible means of amending the current penalty scheme to address concerns regarding potential unfair competitive situations:

3.1 Raise the Current Penalty

Do not change the current penalty scheme but increase the automatic non-compliance penalty from \$200 per outstanding debit to a higher value so that suppliers who are willing to fail to comply with the carbon intensity requirements do not see paying the penalty as an alternative to purchasing available credits.

3.2 Do Not Forgive Debts

Alternatively, the Ministry could amend the legislation so that paying the penalty does not erase the outstanding debits, which would mean that a supplier's debits would continue to accumulate until they are able to generate or acquire enough credits to comply. This mechanism would uphold the environmental integrity of the BC-LCFS by requiring those carbon intensity reductions to occur eventually, while eliminating payment of the (current) compliance penalty as a compliance solution.

4 Compliance Assurance Mechanism

If the fuel supply industry is not able to generate enough credits, it may be appropriate to provide a Compliance Assurance Mechanism that would provide all fuel suppliers with an acceptable means for achieving compliance when a supplier is unable to acquire enough credits to comply.

The Ministry has reviewed the compliance assurance instruments that were examined by the California Air Resources Board with respect to California's LCFS [2], and is evaluating the following two-stage compliance assurance process:

Stage 1: Credit Clearance, which would ensure that available credits are used for compliance before allowing any measures that may reduce the effectiveness of the BC-LCFS; and

Stage 2: A mechanism that sets a limiting price to the cost of compliance to ensure that unexpectedly high costs have a minimal impact on the consumer.

The compliance assurance process would be triggered when one or more fuel suppliers have outstanding debits at the end of a compliance period, as determined through compliance reporting. Only fuel suppliers with outstanding debits would be permitted to participate in the compliance assurance process.

4.1 Stage 1: Credit Clearance

Some suppliers have expressed concerns that there could be a small pool of unsold surplus credits at the end of a compliance period, even if there is a demand for those credits. While this quantity of "stranded credits" is likely to be relatively small, it is a concern worth considering when implementing compliance assurance measures as it may encourage smaller suppliers to participate in credit

generating activities which contribute to the environmental goals of the BC-LCFS and CleanBC.

The first stage of the process under consideration is the Credit Clearance stage, where available surplus credits would be sold to those fuel suppliers that have outstanding debits at the end of a given compliance period. This mechanism is intended to alleviate concerns regarding stranded credits by providing market participants the opportunity to sell credits that they were unable to sell during the compliance period. The Ministry is exploring two options for Credit Clearance: a “Managed Credit Clearance” process administered by government and a less formal “Market Credit Clearance” process administered through the newly developed Transportation Fuels Reporting System (TFRS) [3].

4.1.1 Managed Credit Clearance

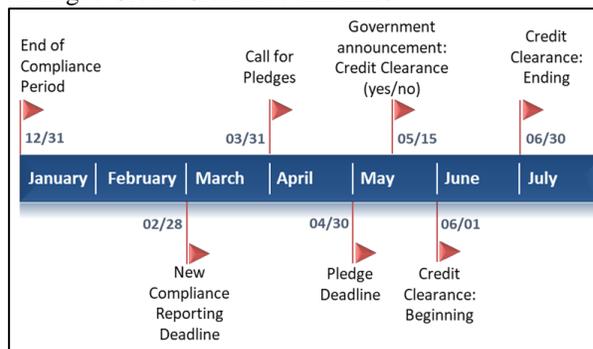
Under the Managed Credit Clearance option, fuel suppliers holding surplus credits would be notified by the Ministry and given the opportunity to pledge credits for sale at the Credit Clearance Price. Fuel suppliers holding surplus credits would be able to pledge any amount of their credits that they wish to sell. Pledges would be binding, and pledged credits could not be sold within the regular credit market or otherwise withheld from the Managed Credit Clearance process until the process is complete.

Upon receipt of pledges, fuel suppliers with outstanding debits would be required to purchase their prorated share of all the credits that were made available for sale at the Credit Clearance Price. The quantity of credits for each supplier would be proportional to their share of outstanding debits relative to all other fuel suppliers with outstanding debits. Fuel suppliers that purchase credits under Credit Clearance must use those credits to erase outstanding debits and cannot sell the credits to other suppliers.

If the quantity of all pledged credits exceeds the quantity of all outstanding debits, fuel suppliers with outstanding debits would only be allowed to purchase the number of credits needed to fulfill their outstanding debit obligations. These credits would be purchased in equal proportion from all suppliers who pledged credits, and the remaining credits would be returned to the fuel suppliers who pledged them. Once returned, the owner is once again free to use those credits as they wish.

Implementing a managed Credit Clearance process would add several steps to the compliance process. In order to complete the process in a timely manner, and provide a reasonable timeframe for each stage, the Ministry would modify the existing compliance reporting deadline, as outlined in the figure below.

Figure 1. Revised Compliance Reporting deadline and Managed Credit Clearance timelines.



The compliance reporting deadline would be moved from March 31 to February 28. The Ministry would then assess fuel supplier compliance in March, and fuel suppliers with outstanding debits would be required to participate in the compliance assurance process. Credit Clearance would begin on March 31 when the Ministry would issue a call for pledges of credit to all fuel suppliers holding surplus credits. Fuel suppliers would have 30 days (until April 30) to pledge surplus credits for sale under Credit Clearance. By June 1 the Ministry would inform each supplier with outstanding debits of the quantity and source of credits allocated to them,

and those suppliers would then have one month to purchase the credits from the identified fuel supplier(s).

This mechanism would ensure that credits are not stranded when one or more suppliers have outstanding debits, but it will require significant Ministry resources to administer and manage, with compliance situations not being finalized until after June 30.

4.1.2 Market Credit Clearance

Under the Market Credit Clearance option, the Ministry would develop a “marketplace” feature in TFRS that would facilitate the connection of buyers and sellers. The feature would allow fuel suppliers with surplus credits to indicate their willingness to sell those credits to other Part 3 fuel suppliers, including the quantity and asking price per credit. Fuel suppliers who would like to purchase credits would also be able to broadcast their willingness to buy credits from other Part 3 fuel suppliers, including quantity and price. The marketplace feature would be available year-round, and all Part 3 fuel suppliers would be eligible to participate, not just those with outstanding debits.

Prices would be capped at the Credit Clearance Price. If offered credits are available at the reporting deadline, no suppliers will be permitted to access Stage 2.

Implementing this option would not require an adjustment to the compliance reporting deadline.

4.2 Stage 2: Compliance Assurance Fee

Fuel suppliers that have outstanding debits after the Credit Clearance phase would enter the second stage of the compliance assurance process. After considering other potential mechanisms, which are briefly discussed in Appendix B, the Ministry is evaluating a “credit window” mechanism that

would allow fuel suppliers with outstanding debits to purchase credits directly from the Ministry at a fixed price (the Credit Clearance Price). The Compliance Assurance Fee would be the Credit Clearance Price times the number of credits needed to achieve compliance. The Ministry is seeking input regarding setting an appropriate Credit Clearance Price. There are relatively high-cost, desirable actions that are already occurring within the British Columbia fuel market, such as co-processing and the supply of hydrogenation-derived renewable diesel (HDRD). It is expected that the costs of these actions will decrease over time as supply constraints are alleviated, and economies of scale and learning-by-doing are realized. An appropriate Credit Clearance Price is one that continues to incent these actions while providing suppliers with a path to compliance if there is an overall credit shortage. Appendix A provides a compliance example to further illustrate this mechanism.

Pros:

- The Credit Clearance Price would be a hard cap on BC-LCFS credit prices, thus providing cost certainty.
- If the Credit Clearance Price is set appropriately, this mechanism would ensure compliance if there is a systemic shortage of credits, while continuing to incent desired actions already occurring in the British Columbian fuel market (e.g. co-processing, HDRD supply, etc.).
- A Compliance Assurance Fee based on a fixed Credit Clearance Price is simple to understand and administer.

Cons:

- Because credits issued at a Credit Clearance Price would not be associated with carbon intensity reductions, the environmental integrity of the LCFS would be reduced.
- Depending on the Credit Clearance Price, desired action that is already occurring in the

British Columbia fuel market may slow or even stop.

4.2.1 Compliance Agreements

The Ministry is also considering Compliance Agreements as another mechanism that could be used in addition to the credit window to achieve compliance. Suppliers who enter into a Compliance Agreement with the Ministry could alleviate a portion of their outstanding debits and reduce their Compliance Assurance Fee. The extent of this reduction would depend on the scope of the project under the agreement and the expected greenhouse gas reductions that would result from its completion.

Compliance Agreements would be similar in scope to Part 3 Agreements but without the credit limitation and with stricter requirements. For example, these agreements would be limited to projects that are undertaken by the supplier, that will increase the supply and/or distribution of low carbon fuels by 2030, and that incorporate rigid milestones and deadlines.

Pros:

- Contributes to the objectives of CleanBC.
- Helps mitigate the decrease in the environmental integrity of the BC-LCFS that results from the compliance assurance process.

Cons:

- Administratively complex and would require significant planning, negotiation and oversight by Ministry staff.

4.3 Administrative Penalties

Under the Compliance Assurance Mechanism, the automatic non-compliance penalty for Part 3 fuel requirements, as described in section 10 (1) of the Act, would become meaningless because the compliance assurance process ensures that all fuel suppliers can achieve compliance with the Low

Carbon Fuel Requirements. In instances where malfeasance, fraud, or other contraventions lead to a non-compliance situation, the Ministry has authority to apply administrative penalties of up to \$100,000 in addition to the Compliance Assurance Fee required to achieve compliance with the Low Carbon Fuel Requirements. The Ministry also has the authority to prosecute these contraventions as offenses under the Act.

5 Management of Funds

Compliance Assurance Fees may result in the collection of significant funds. The Ministry is considering several methods for managing these funds:

5.1 General Revenue

The fees and penalties could continue to go directly into general revenue, as is the process for penalties under the existing legislation.

Pros:

- Simple to administer and already established.

Cons:

- Does not further the objectives of the BC-LCFS and the CleanBC plan.
- Does not mitigate the decrease in the environmental integrity of the BC-LCFS resulting from the Compliance Assurance Mechanism.

5.2 Special Account

A Special Account could be created to hold the any fees or penalties that are collected, and the funds would be used to further the objectives of the BC-LCFS and the goals of the CleanBC plan. The Ministry has identified two possibilities that could be utilized:

1) Innovative Clean Energy (ICE) Fund.

The ICE Fund is an existing Special Account designed to support the Province's energy, economic, environmental, and greenhouse gas reduction priorities, and to advance B.C.'s clean energy sector. The ICE Fund is well-established and currently supports many initiatives that align with the objectives of the BC-LCFS. If this option were chosen, the Ministry would consider restricting the disbursement of funds collected from fees and penalties under the BC-LCFS to support initiatives that further the objectives of the BC-LCFS and the transportation-related goals of the CleanBC plan.

Pros:

- Supports initiatives that further the objectives of the BC-LCFS, thus mitigating the decrease in environmental integrity that results from the Compliance Assurance Mechanism.
- Makes efficient use of Ministry resources by using an existing Special Account.
- Relies on an existing Special Account that has a history of successfully supporting a variety of transportation-related initiatives.

Cons:

- Places additional administrative burden on the administration of the ICE Fund.
- Requires more resources to manage compared to allowing the funds to flow into General Revenue.

2) Dedicated Special Account.

A dedicated Special Account could be created to manage the collection of fees and penalties. The dedicated Special Account would support transportation-related initiatives through the disbursement of funds in the form of grants. Like the existing Part 3 Agreement program under the BC-LCFS, fuel suppliers and other industry stakeholders would be able to submit project proposals to the Ministry for consideration. Proposals would be ranked based on established criteria, with the highest scoring projects receiving financial support. Assessment of project benefits would be limited to a pre-defined, near-term time period. For example, the assessment of a proposal to build a fuel production facility would not consider the benefits of the project over the entire life of the asset (e.g. 50 years), rather the near-term benefits once in operation (e.g. 1-5 years).

Pros:

- Supports initiatives that further the objectives of the BC-LCFS, thus mitigating the decrease in environmental integrity that results from the compliance assurance process.
- Would be administered by staff familiar with specific understanding of needs within the sector.

Cons:

- Requires new resources to manage compared to General Revenue or using the ICE Fund Special Account.
- Requires the creation of new evaluation criteria.

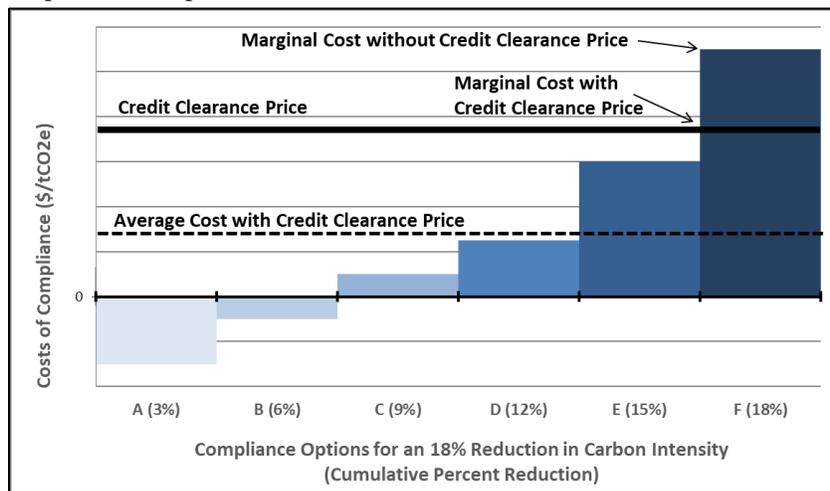
Appendix A. Marginal Cost vs. Average Cost

Fuel suppliers have access to different compliance options at different costs; they can supply various types of fuel, or they can purchase credits from other suppliers. It is assumed that suppliers will seek to minimise their costs of compliance, and that the last unit of credit generated or purchased will be the most expensive one. Marginal cost is an economic concept that is defined as the cost of producing (or supplying) one more unit of a good or service. The marginal compliance cost is the cost of the last unit of credit needed to achieve compliance. The average compliance cost is the average cost of acquiring all the credits needed to achieve compliance.

To limit the average cost of compliance when there are insufficient numbers of low-cost credits, the marginal compliance cost must be limited. One way to do this is to introduce credits into the market at a fixed price per credit. It is expected that fuel suppliers will only supply fuel with a marginal credit cost below this price. This implies that the Credit Clearance Price should be set above the marginal cost of the most expensive, desired compliance action.

To illustrate, Figure 2 below presents a hypothetical example showing a variety of compliance options (A, B, C, D, E, F) available to a fuel supplier at different costs (\$/tCO₂e). Each compliance option has an associated cost denoted by the height of the compliance option (y-axis), each option is assumed to reduce a fuel supplier’s average carbon intensity by three percent, and the supplier is expected to achieve an 18% reduction. Normally, the fuel supplier would start by choosing the lowest cost compliance option; that is, Compliance Option A. If compliance was not achieved by only using Compliance Option A, the fuel supplier would then choose the next lowest cost compliance option (i.e. Compliance Option B), and so on until compliance is achieved.

Figure 2. Costs of compliance example.



Assume that a credit window mechanism is implemented at a “Credit Clearance Price,” as shown by the horizontal line. In this 18% reduction scenario, a fuel supplier seeking to minimize the costs of compliance would first utilize Compliance Options A through E, as their marginal costs are below the Credit Clearance Price. A fuel supplier would never choose Compliance Option F, as it has a higher cost than that of purchasing a credit at the credit window. Instead, a fuel supplier would comply by purchasing

credits at the Credit Clearance Price, and the actual carbon intensity reductions achieved would be 15%, not 18%. In this example, the marginal cost of compliance equals the Credit Clearance Price, while the average cost of compliance is the average cost of generating or acquiring all credits needed for compliance, denoted by the dashed “Average Cost” line in Figure 2. If multiple compliance options with differing costs must be used to comply, the average cost of compliance will always be lower than the marginal cost.

Appendix B. Other Compliance Assurance Options Considered

As mentioned in section 4.2., in addition to the credit window mechanism, the Ministry has considered the following options.

a. Debit Carryover

A Debit Carryover mechanism would allow fuel suppliers to defer their debit obligation for up to five years, with interest. If a fuel supplier is unable to meet their deferred debit obligation after five years, the remaining debits would be subject to a non-compliance penalty. This mechanism has been implemented by the California Air Resources Board (CARB) under California’s LCFS policy [4]. It was chosen in part because CARB expects the California market to respond to the guaranteed need for credits by increasing the supply of credit-generating fuels. Indications are that the B.C. market does not have the required level of market diversity and competition to respond to the signal that this provision provides. The Ministry does not intend to pursue this option.

b. Credit Multiplier

This mechanism would apply a credit multiplier to the supply of low carbon fuels that are below a specified carbon intensity threshold when credits consistently trade above an established credit price. The carbon intensity threshold, credit price threshold, value of the multiplier, and the period during which it would remain in effect would be determined prior to the beginning of a compliance period. This mechanism’s impact on the fuel market is uncertain, and research suggests that it could result in a decrease in the supply of low carbon fuels [2]. The Ministry does not intend to pursue this option.

Appendix C. References

- [1] Government of British Columbia (2019). CleanBC: our nature. our power. our future. Retrieved from <https://cleanbc.gov.bc.ca/>.
- [2] Lade, G. E. & Lawell, C. Y. C. L. (2013). A report on the economics of California's low carbon fuel standard and cost containment mechanisms. University of California, Davis. Research report UCD-ITS-RR-13-23.
- [3] Ministry of Energy, Mines and Petroleum Resources. Transportation Fuels Reporting System (TFRS). <https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/transportation-energies/renewable-low-carbon-fuels/transportation-fuels-reporting-system>.
- [4] *Low Carbon Fuel Standard Regulation*. Title 17, California Code of Regulations (CCR), sections 95480-95503. Retrieved from <http://oal.ca.gov/publications/ccr/>.