

Canada's forthcoming Clean Fuel Regulations

How to reduce GHG emissions, sell credits and support new low-carbon fuel infrastructure projects

April 2022

By Saeed Kaddoura and Bora Plumptre

Summary

- Environment and Climate Change Canada's (ECCC) forthcoming Clean Fuel Regulations (CFR) would regulate primary fuel suppliers.
- Fleet operators and other organizations can also decide to voluntarily participate in the regulation.
 - Fleet operators can earn credits by supplying their own vehicles with low-carbon fuels, such as electricity, hydrogen, or natural gas.
 - Businesses and utilities can supply low-carbon fuels to vehicles they do not own.
 - Those credits can be sold to regulated suppliers in a credit market that will be operated by ECCC. Revenues from the sale of credits can be used at their discretion, including to cover the costs of new low-carbon fuelling infrastructure.
 - Credits are generated based on the quantity of low-carbon fuel supplied, not investments in technology or infrastructure.
- The regulation is expected to be published in spring 2022 and brought into effect in December 2022.

Overview of the Clean Fuel Regulations

Under the authority of the Canadian Environmental Protection Act, 1999, the incoming [Clean Fuel Regulations](#) (CFR) were published in draft form by ECCC in December 2020. The CFR is an industrial policy tool designed to encourage the transition to cleaner fuels. It is designed to cost-effectively reduce greenhouse gas (GHG) emissions from transportation fuels by reducing their life cycle carbon intensity while growing Canada's clean economy at the same time.

Life cycle carbon intensity is a measure of all the GHG emissions released throughout the life cycle of a fuel's production and use, including extraction, processing, bulk transport, retail distribution, and final combustion.

The final regulations are expected to be released in spring 2022 and brought into effect in December 2022. The first compliance period is only the month of December 2022 (December 1 to December 31). All subsequent compliance periods will be one year long.

Companies regulated by the Clean Fuel Regulations

Only primary fuel suppliers are regulated by the CFR. They are required to maintain compliance with the carbon intensity standards, which will become more stringent over time. Primary fuel suppliers are producers or importers of refined liquid fossil fuel products (gasoline, diesel, and kerosene). If regulated companies perform better than the CFR carbon intensity limit for the year, they generate excess credits that may be sold to non-compliant companies to achieve compliance. Credits can also be banked for use or sale in later years; credits do not expire.

Voluntary participants in Clean Fuel Regulations

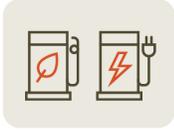
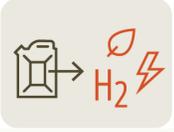
Fleet operators and organizations that supply fuels are not regulated under the CFR, but they can voluntarily register under the regulation as an “opt-in party.” Through the CFR, voluntary participants can earn credits for supplying low-carbon fuels or using lower-carbon energy carriers, like hydrogen and electricity.

These voluntary participants can sell their credits to regulated fuel suppliers. This helps the suppliers offset the cost of reducing the carbon intensity of their products.

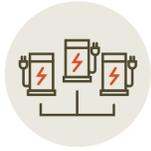
Compliance categories

The CFR establishes three credit-generating actions known as “[compliance categories](#).” Regulated companies will be able to generate credits, under Compliance Category 1. Opt-in organizations, including fleet operators, utilities, and fuel suppliers would be eligible to earn credits under Compliance Category 3.

Who can generate credits under the three CFR compliance categories?

	 <p>Compliance Category 1 (CC1)</p>	 <p>Compliance Category 2 (CC2)</p>	 <p>Compliance Category 3 (CC3)</p>
What	Reduce carbon intensity of fossil fuel production	Supply low-carbon-intensity fuels	End-use fuel switching
How	Undertaking projects that reduce the life cycle carbon intensity of fossil fuels, such as carbon capture and storage, on-site renewable electricity, co-processing renewable feedstocks	Supplying customers with low carbon intensity fuels, such as ethanol, biodiesel, hydrogenation-derived renewable diesel	Dispensing low-GHG fuels for use in vehicles such as plug-in electric, hydrogen fuel cell, or natural gas vehicles
Who	<ul style="list-style-type: none"> • Crude oil producers • Petroleum refiners 	<ul style="list-style-type: none"> • Biofuel producers • Synthetic fuel producers 	<ul style="list-style-type: none"> • Commercial or corporate fleets • Public transit operators • Electric utilities • Commercial entities that offer on-site or public charging • Hydrogen fuelling station operators • Natural gas and propane fuelling station owners/operators
Limits	CC1 credit creation occurs only via applicable, approved Quantification Methodologies (whereas CC2, CC3 credit creation occurs on basis of energy produced and the registered carbon intensity scores of the low-carbon fuel in the ECCC's Fuel LCA Model)	To qualify under the CFR, credit-eligible fuels must generally be certified to be no more than 90% of the annual reference carbon intensity for the relevant fuel type. Biofuel feedstock must meet relevant ECCC's Land Use and Biodiversity criteria.	Residential charging stations must be installed before 2030 to be eligible for credit creation; all residential EV charging would become ineligible after 2035.

How CC3 organizations generate and use credits



Charging network operator

Operate a network of public or residential metered EV charging

How credit revenues can be used

Charging network operators are required to re-invest credit revenues within two years after the end of the compliance period in which the credits were sold. For example, if credits are earned in March 2023, credit revenues need to be re-invested by December 2025.

Reinvestments must be spent on activities that either:

1. Expand the network of EV charging infrastructure in residential or public locations (including EV charging stations and electricity distribution infrastructure that supports EV charging); or
2. Reduce the cost of electric vehicle ownership (e.g., via financial incentives, such as point-of-sale rebates, to purchase or operate an EV).



Charging site host

Operate private/commercial non-residential EV charging for exclusive use, or public charging site



Station site host

Operating hydrogen, natural gas, propane, or other alternative fuel refuelling station

How credit revenues can be used

Charging site hosts and station site hosts have flexibility in how they use the revenue earned by traded credits. They could reinvest credit revenue to invest in low-carbon fuel vehicles and their associated fuel supply equipment/infrastructure to make projects more financially feasible.

Process for earning credits

1. Opt in



An organization may register as a voluntary credit creator with ECCC and indicate an intent to participate as one of the three types of credit creators under Compliance Category 3 (charging network operator, charging site host or station site host).

2. Purchase and install equipment, if necessary



Install alternative fuel supply equipment at depot and purchase advanced fuel vehicle, such as plug-in electric, hydrogen fuel cell, or natural gas vehicles.

3. Operate your vehicles



Dispense low carbon intensity fuel.

4. Monitor



Assess and monitor energy volumes supplied in megajoules (MJ) for compliance period.

5. Report



Calculate the number of credits generated using the methodology described in the CFR (see illustrative examples below) and submit third-party-reviewed documentation — credit creation reports — to ECCC attesting to total alternative fuel energy supplied for given reporting/compliance period.

6. Receive credits



Upon receipt and processing of an annual credit creation report, ECCC will deposit credits into the credit compliance account using the Credit and Tracking System (CATS).

7. Use credits



Depending on the type of credit generator, sell credits by transacting with regulated parties, hold credits for later use or sale, or reinvest the revenues within two years.

8. Adopt more clean fuel options



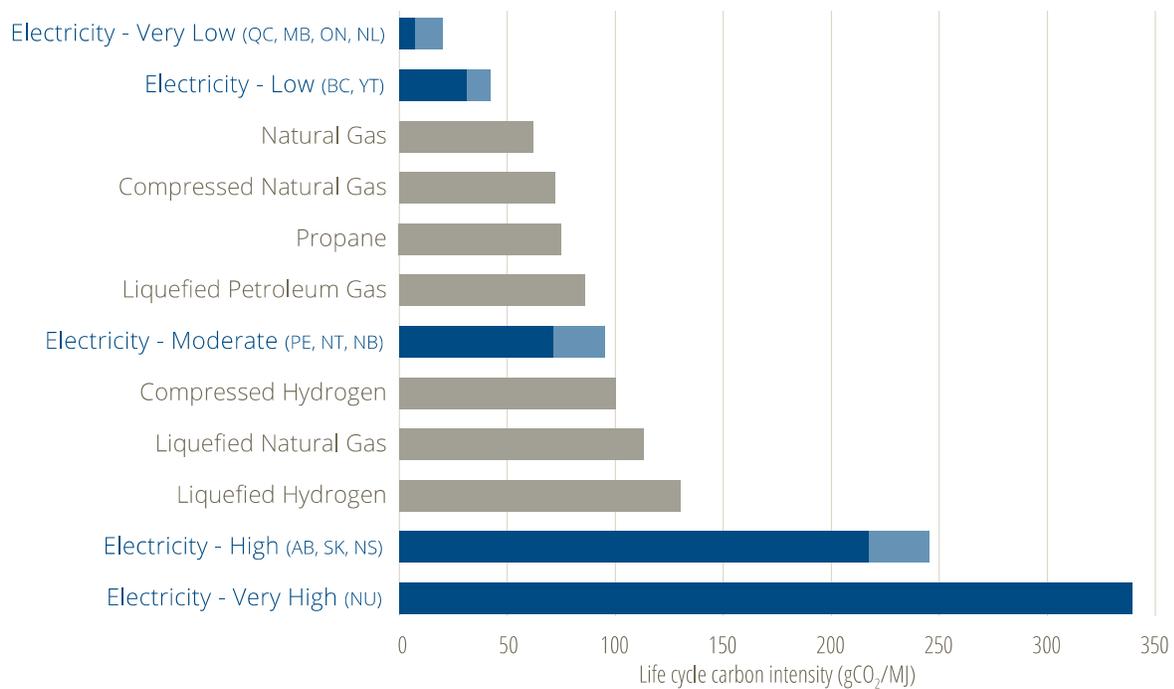
If appropriate, develop a new credit-generating emissions reduction activity (e.g., buy more alternative fuel vehicles) and repeat the process from Step 2.

Low-carbon fuels

The figure below summarizes the life cycle carbon intensity of some alternative fuels eligible for credit generation, and electricity supplied by grids where EV charging stations could be located. More credits are generated from fuels and grids with low carbon intensities.

Provincial/territorial electricity grids vary widely in carbon intensity, depending on how electricity is generated. Hydroelectric grids have the lowest carbon intensity, while coal- and diesel-powered grids have the highest.

Credits are generated based on the quantity of energy supplied in a compliance period, not on the type, quantity, or value of equipment installed.



Life cycle carbon intensity of some alternative fuels and electricity supplied by grids. More credits are generated from fuels and grids with low carbon intensities.

Data source: ECCC, Fuel LCA Model Methodology (2020), 78, 82.

Annual reporting

Fleet operators and other organizations that opt to participate in the CFR must report some required information; other information is optional. (The brackets refer to the current draft of the regulations and are subject to change.)

Required

- Annual credit creation report due by Jan. 31 (s. 103, Schedule 8)
 - Verification report (in respect of previous year's credit creation report) by June 30 (s. 117, Schedule 18)
- Compliance credit revenue report due by June 30 (s. 107, Schedule 11)
 - Accompanying verification report due at time of submission
 - Applicable only to charging network operators if they transferred (sold) CC3 credits in the previous period
- Compliance credit balance report for the previous compliance year due June 30 (s. 108, Schedule 12)
 - Purpose is to report balance of compliance credits in a registered credit creator's account and to provide an opportunity for a registered creator to pledge credits into the compliance credit clearance mechanism
 - No verification report required

Optional

- Carbon intensity pathway report for the previous compliance year by April 30 (s. 105, Schedule 9)
 - Accompanying verification report due at time of submission.
 - Carbon intensity pathway reports are only required when a unique carbon intensity pathway needs to be modelled (for more details see the [Fuel Life Cycle Assessment Model Methodology](#))

Note: Quarterly credit creation reports are not required of CC3 credit creators.

For more information about the Clean Fuel Regulations

Contact:

Clean Fuel Standard
Energy and Transportation Directorate
Environment and Climate Change Canada
ec.cfsncp.ec@canada.ca