

Clean Fuel Standards (CFS) Regulatory Design Paper

Overview:

- Presents key elements of the CFS design, building on the December 2017 paper.
- Focuses on requirements for the liquid stream, but also provides some information on the gaseous and solid streams.

What is a Clean Fuel Standard?

- Reduce Canada's GHG emissions through the increased use of lower carbon fuels, energy sources and technologies.
- Achieve 30 million tonnes of annual reductions in GHG emissions by 2030
- Will complement carbon pollution pricing by reducing GHG emissions throughout the lifecycle of fuels and by driving investments in cleaner and technology.
- Set separate requirements for liquid, gaseous and solid fossil fuels. Liquid stream first, with draft regulations in the spring or summer of 2019 and final regulations in 2020.
- Fuels subject to the CFS:
 - Liquid: gasoline, diesel fuel, jet fuel, kerosene and light and heavy fuel oils.
 - Gaseous: Natural gas and propane.
 - Solid Fuels: Coal, petroleum coke and some solid heavy fuel oils.

Key Design Elements:

- **Requirement for the liquid stream:** the carbon intensity of liquid fuels will have to be reduced by 10 g of CO₂e per MJ below their reference carbon intensity by 2030.
- **Actions that generate credits, including fuel switching by end-users in the liquid stream:** credits can be generated when some fuel users switch from a higher carbon intensity fuel to a lower carbon intensity fuel by changing or retrofitting combustion devices when a liquid transportation fuel is displaced by natural gas, propane or a non-carbon energy carrier (e.g., electricity, hydrogen) or when fuels are switched along the production chain of a fossil fuel.
- **Early action credits** will be allowed for actions taken in all three fuel streams after the publication of final regulations for the liquid stream, which is expected to occur in 2020.
- **Trading of credits between fuel streams:** 10% of a company's carbon intensity compliance obligation for any stream will be allowed to be met with credits from other streams.
- **Indirect land use changes** will not be accounted for in calculating the lifecycle carbon intensity of a fuel at this time.

How will the Clean Fuel Standard Be Applied?

- Each fossil fuel primary supplier must meet its carbon intensity compliance obligation for the compliance period by demonstrating through submission of its annual compliance report
- Fossil fuel primary suppliers may not borrow or use anticipated credits from future projected or planned carbon intensity reductions for compliance.
- A Canadian average carbon intensity value will be determined for each fossil fuel produced or imported in Canada.
- The regulation will not differentiate among crude oil types, or on whether the crude oil is produced in or imported into Canada.
- For natural gas-derived fuels, the CFS will not differentiate between sweet and sour gas, or by origin of the gas.
- A Canadian average carbon intensity value for natural gas and propane produced and imported and consumed in Canada will be determined.

- Credits generated for renewable and low-carbon fuels that are exported from Canada will be required to be cancelled.
- Producers of renewable and other low carbon fuels will be able to generate CFS compliance credits.
- The regulations will require the use of the Fuel Life Cycle Assessment Modelling Tool to calculate facility-specific carbon intensity values and their submission to Environment and Climate Change Canada for approval, along with supporting data and verification by a third party.
- The treatment of liquefied natural gas and compressed natural gas remains to be established.

Compliance Categories:

1: Actions that reduce the carbon intensity of the fossil fuel throughout its lifecycle

- These may include actions such as process improvements, electrification, switching from a higher carbon intensity fuel to a lower carbon intensity fuel and carbon capture and storage (i.e., actions that reduce the lifecycle carbon intensity of the obligated fuel).
- These actions can be taken by fossil fuel primary suppliers and by others upstream or downstream of a refinery.

2: Supplying low-carbon fuels

- The Clean Fuel Standard will allow producers and importers of renewable or other low-carbon fuels to generate credits, based on the amount (energy in MJ) of renewable or other low carbon fuel, they supply to the Canadian market annually.
- Eligible fuels must have a carbon intensity lower than the fuel stream credit reference carbon intensity value

3: Specified end-use fuel switching

- The Clean Fuel Standard will allow some end-use fuel switching to generate credits.
 - End-use fuel switching occurs when an end-user of fuel changes or retrofits its combustion devices (e.g., an engine) to be powered by another fuel or energy source.
 - End-use fuel switching does not reduce the carbon intensity of the fossil fuel.
 - Instead, it reduces greenhouse gas emissions by displacing the fossil fuel with a fuel or energy with lower carbon intensity.
- In the liquid stream, end-use fuel switching from a higher carbon intensity fossil fuel used for transportation to the following lower carbon intensive fuels will be eligible for credit generation: natural gas, propane and non-carbon energy carriers, such as electricity or hydrogen.
- For the gaseous and the solid fuel streams, the type of end-use fuel switching that may be recognized for credit generation is still to be determined.

Early credit generation

- The CFS will allow credits to be generated from each fuel stream (liquid, gaseous and solid) in 2020.
- All solid or gaseous fuel credits generated before the solid or gaseous fuel stream regulations come into effect can be banked for future compliance.

Credit Generation:

- The Clean Fuel Standard will allow three methods for generating credits:
 1. Actions that reduce the carbon intensity of the fossil fuel throughout its lifecycle;
 2. The supply of renewable and other low-carbon intensity fuels; and,
 3. Some end-use fuel switching.
- Credits may be generated by fossil fuel primary suppliers or by voluntary credit generators that undertake these actions.

- Fuels that can be used in more than one fuel stream will generate credits in the stream where they are used (e.g., natural gas used to displace liquid fuels in the transportation sector would generate credits in the liquid stream).
- The Clean Fuel Standard will allow credits to be generated by the following parties:
 - Distribution utilities will generate credits for home charging of electric vehicles;
 - Electric vehicle charging network operators will generate credits for public charging of electric vehicles; and,
 - Site hosts will generate credits for private / commercial charging of electric vehicles.
- ECCC is considering whether the CFS should allow other actors (other than distribution utilities, site hosts and network operators) to generate credits, including who should be the credit generator for the charging of heavy-duty electric vehicles.
- The regulation will allow credits to be generated relating to electric off-road vehicles and hydrogen fuel cell vehicles in a similar manner as on-road electric vehicles, with credit calculations based on the fuel being displaced and the energy efficiency ratio for the type of vehicle being displaced.
- The CFS regulations will also allow parties to submit a protocol to ECCC if the existing protocols don't apply to their project.
- The regulations will specify requirements for developing and obtaining approval of a protocol.
- There will be provisions to ensure the integrity of the credit and trading system and to support the liquidity of the credit and trading systems

Trading between fuel streams

- After all three fuel stream requirements are in effect, the CFS will allow fossil fuel primary suppliers in each stream to discharge a modest percentage (i.e., 10 percent) of their carbon intensity compliance obligation using credits from the other fuel streams.
- A refinery that undertakes a process improvement that reduces the carbon intensity of its facility may be entitled to surplus credits under the federal Output Based Pricing System

Other Considerations:

- ECCC is considering including mechanisms to reinforce market and investment certainty.
 - These could include allowing fossil fuel primary suppliers to discharge a specified amount of their obligation by payment into an emissions reduction fund at a specified price level that will have a mandate to invest in actions that will reduce greenhouse gas emissions.
- Consideration is also being given to a market clearing mechanism, which would be activated if a fossil fuel primary supplier has insufficient credits for compliance. Parties with credits would be able to pledge credits for sale in this market with a specified price limit.
- These could include allowing fossil fuel primary suppliers to discharge a specified amount of their obligation by payment into an emissions reduction fund at a specified price level that will have a mandate to invest in actions that will reduce greenhouse gas emissions.

Next Steps:

- Draft regulations for the liquid fuel stream are planned for publication in spring / summer 2019, with final regulations in 2020 and coming into force in 2022.
- Draft regulations for the gaseous and solid fuel streams are targeted late 2020, with final regulations in 2021 and coming into force in 2023.
- CME will be participating in a multi-stakeholder task group on emission-intensive and trade-exposed sectors to address and mitigate competitiveness concerns and impacts.
- CME will be providing a written submission on the regulatory design paper and preparing a revised position on the CFS.
- CME will be formerly re-activating its coalition on the CFS and will be adding content to the Fuelling Our Future Website (www.fuellingcanadasfuture.ca).