Clean Fuel Standard credit opportunities for end-use fuel switching

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The coming federal government Clean Fuel Standard (CFS) contains three mechanisms for offset credit creation and credits derived when end-users of regulated transportation fuels modify combustion engines and switch to a lower carbon intensity fuel.

Specifically, the CFS will provide both (regulated) Primary Suppliers and various other stakeholders, such as electric vehicle manufacturers and hydrogen fueling station operators, opportunities to directly generate offset credits under the CFS. Indirectly, fuel switching under the CFS will create financial incentives across the industrial, commercial and institutional sectors, in addition to transportation and energy. Its impact is likely to be profound.

Low and lower carbon intensity fuel usage eligible

The mechanism, as one its objectives, incentivizes overall reductions in carbon emissions. As a result, there is a broad creditable opportunity in switching from (CFS-regulated) higher carbon intensity fuels to those with lower assigned intensities, even within fossil fuels.

Switching to any of these fuels in the transportation sector may generate CFS credits:

- Natural gas and renewable natural gas (including compressed and liquefied);
- Hydrogen (including compressed and liquefied);
- Propane and renewable propane; and
- Electrification.

The most meaningful carbon emissions reductions – and therefore the most fuel switching credits – will come in the adoption of very low or zero carbon-carrying fuels, such as green electricity and hydrogen.

No additionality/LCA requirements for fuel-switching

Unlike lifecycle carbon intensity reductions or the supply of low carbon-intensity fuels, there is no requirement for baseline data, “additionality” verification, or submission of

bespoke lifecycle assessments under this mechanism. All low or lower-carbon-intensity fuel volumes supplied for transportation would be eligible to create fuel-switching credits.

This makes end-user fuel switching arguably the easiest of the three CFS credit generation mechanisms to administer, and the least onerous in pre-credit obligations.

Emphasis on vehicle electrification and hydrogen replacements

End-use fuel switching has clear and overt ties to Canada's parallel promotion of electric vehicles and hydrogen policy, including the coming National Hydrogen Strategy.

Electricity and hydrogen-displacing fossil fuels used in vehicles will generate CFS credits based on the difference in carbon intensity (and energy volumes/efficiency ratios) between the electricity/hydrogen and:

- Gasoline: Light-duty vehicles, including passenger vehicles
- Diesel: Heavy-duty vehicles

In other words, where the EV electricity/hydrogen supply is truly low-carbon, a substantial financial inducement is provided for under the fuel-switching mechanism.

Who's the credit generator for EV and hydrogen?

The creator of eligible credits under the fuel-switching mechanism for both EV and hydrogen is somewhat activity-specific, and dependent upon the incorporation of charging network data collection/metering technology:

- EV Residential (without data): Original Equipment Manufacturer (OEM)
- EV Residential (with data): Charging network operator
- EV Public (site host/network operator): Site host or network operator
- EV Private: Charging Site host
- Fuel Cell: Station Site host

There will be a potential web of CFS credit generators for EV and hydrogen, reflecting the interdependence many of these parties will have in creating viable EV and hydrogen vehicle infrastructure.

EV credit reinvestment obligations

As EV credit creation is viewed under the CFS as potentially involving "minimal or no incremental investment in zero-emission vehicles" for compliance, EV OEMs and charging network operators will be required to reinvest some of the resulting CFS credit revenues. Specifically, these parties may be obligated to invest as much as 50 per cent of their fuel-switching credit revenues to:

- Expand EV network charging infrastructure;

- Reduce costs of EV ownership (presumably OEM-targeted); or
- Educate and inform consumers on EV benefits.

Notably, the CFS may also allow expenditures on electricity grids to benefit EV charging as qualifying reinvestment. EV and hydrogen charging stations will not, however, be obligated to make these reinvestments.

What about other end-use transportation fuel switching?

The credit mechanism extends beyond EV/hydrogen replacement in vehicles to other fuels, such as compressed and liquefied natural gas, renewable natural gas and renewable/propane. For these fuels, the credit generator is some combination of the fueling facility owner and the producer/importer of the low-carbon fuels.

Fuel-switching opportunities also applies to other transportation industries, such as marine and locomotive. It's possible, depending on the final iteration of the liquid fuels regulation, that some domestic aviation fuel switching may also be creditable.

Credit generation for early action

Finally, it should be mentioned that end-use fuel switching credits may be created in the liquid class upon publication of the finalized liquid class regulations, expected in 2021 and for use in the 2022 compliance period.

For now the draft liquid class regulations are due by the end of 2020, which will surely spark considerable interest in all of the CFS credit mechanisms.

If you have questions about how CFS may impact your organization, reach out to the key contacts listed below.

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BLG Offices

Calgary

Centennial Place, East Tower
520 3rd Avenue S.W.
Calgary, AB, Canada
T2P 0R3

T 403.232.9500
F 403.266.1395

Ottawa

World Exchange Plaza
100 Queen Street
Ottawa, ON, Canada
K1P 1J9

T 613.237.5160
F 613.230.8842

Vancouver

1200 Waterfront Centre
200 Burrard Street
Vancouver, BC, Canada
V7X 1T2

T 604.687.5744
F 604.687.1415

Montréal

1000 De La Gauchetière Street West
Suite 900
Montréal, QC, Canada
H3B 5H4

T 514.954.2555
F 514.879.9015

Toronto

Bay Adelaide Centre, East Tower
22 Adelaide Street West
Toronto, ON, Canada
M5H 4E3

T 416.367.6000
F 416.367.6749