Power Workers' Union Submission on Clean Fuel Standard: Proposed Regulations

The Power Workers' Union (PWU) is pleased to submit comments and make recommendations to Environment and Climate Change Canada (ECCC) regarding the Clean Fuel Standard: Proposed Regulations. The PWU is a strong advocate of emission reduction strategies and recognizes the Clean Fuel Standard (CFS) as an important part of Canada's climate plan, particularly for electrification of the transportation sector.

The ECCC published a proposed regulatory approach in June 2019 which outlined the draft CFS regulations and opened consultations for stakeholder comment. The ECCC considered the stakeholder feedback received and drafted the CFS Proposed Regulations in December 2020. The PWU originally submitted recommendations in 2019 that addressed mechanisms for incenting EV owner charging behaviors, the inclusion of hydrogen vehicles, maximizing incentives for non-emitting supplies and suggested a more in-depth periodic public review of the benefits realized from the CFS.

The PWU commends the ECCC for expanding the definition of "charging network operators" and enabling credit generation for suppliers of hydrogen vehicle fuel. This reflects our previous recommendations regarding incentives to increase EV uptake and for enabling suppliers of hydrogen vehicle fuel.

However, the PWU believes some changes to the proposed CFS would better enable Canada to achieve greater greenhouse gas (GHG) emissions reductions.

Specifically, the net benefit of emission reduction from fuel switching to EVs is highly dependent on non-emitting electricity sources (e.g., nuclear, biomass, hydro, renewables). However, low-carbon electricity supplies will not always be available when EVs require charging. The PWU believes that the efficacy of the proposed CFS and Canada's emission reduction efforts would be improved by including the following four recommendations made in a previous submission.

1. Calculate the carbon intensity of electricity for EV charging based on the highest emitting source of electricity supply available at the time of use;
2. Enable the use of credits to incentivize the deployment of new low-emitting electricity generation;
3. Ensure all imported fossil fired electricity is addressed by the CFS; and,
4. Provide a public review of the value of the CFS and its various initiatives in 2025.

Recommendation #1: Calculate the carbon intensity of electricity for EV charging based on the highest-emitting source of electricity supply available at the time of use.

The CFS-proposed regulations calculate the carbon intensity of electricity used for EV charging based on the average provincial electricity supply mix. As previously stated, this approach does not maximize the emission benefits of switching to EVs.

The supply mix of Canada's provincial electricity systems changes on an hourly, daily, and seasonal basis in response to demand and the generation resources available to meet it. While low carbon hydroelectric and nuclear generation provide most of the clean baseload electricity in most provinces, some provinces such as Alberta are more dependent upon carbon-emitting fossil-fuelled sources. In

provinces with a higher dependence upon fossil-generation, the emission reduction benefits of EVs will be less.

For example, consider the treatment of EV charging in Ontario and Alberta under the proposed CFS. In Ontario, widely recognized as having a low-carbon electricity system, GHG emissions are typically highest at times of peak demand, when the province depends on its natural gas fleet.[1] By contrast, natural gas-fired plants are running at all hours in Alberta. Under the proposed CFS regulations, more credits will be generated for an EV charged at peak hours in Ontario than one charged at peak hours in Alberta, even though the emissions content of the actual power used is similar.

Furthermore, Ontario will be deploying gas-fired generation for all new demand for the foreseeable future,[2] leading to EVs being charged with natural gas-fired generation even at off-peak hours.

The PWU's approach recognizes that the emissions benefit of EV charging is similar in both of the above examples and should generate credits accordingly. This provides two incentives. First, it would incent EV charging at times when lower carbon baseload generation is operating (e.g. at night in Ontario). Secondly, it would encourage system planners to procure resources that continue to reduce the emissions content of the grid. Without such incentives being included in the proposed regulations, achieving the desired emissions reductions from fuel switching will not occur. The innovation and technologies needed to implement this approach exist and are readily available to support the required data collection, analysis, and management of tracking the incremental electricity system emissions at the time an EV is charged.

Recommendation #2: Enable the use of credits to incentivize the deployment of new low-emitting electricity generation.

The proposed regulations for the CFS require credit revenues from EV fuel switching to be dedicated to expanding EV charging infrastructure or reducing EV ownership costs. Both methods reduce emissions by incenting fuel-switching from fossil-fueled vehicles to EVs. However, the emission reductions achieved by the switch will depend upon the low carbon electricity generation mix used to fuel the EVs. The proposed CFS does not consider this important matter.

As increased EV penetration places new demand on the grid, the provision of new low-emitting electricity will be crucial if the benefits of fuel switching EVs are to be maximized. These benefits have the potential to be substantial on the path to realizing Canada's climate goals[3]

Provinces like Ontario, B.C., Quebec, and Manitoba have large supplies of low-carbon electricity that are looked to for supporting EV charging. However, Canada's more fossil generation dependent provinces (which will include Ontario after 2025)[4] will need new sources of low-emitting generation to meet this demand. Furthermore, demand for electricity for EVs and other NZ electrification initiatives require new low carbon generation in all provinces. Insufficient funding for low-emitting resources and investments in a low carbon national grid increase the risk that these provinces will rely on the cheapest source of new generation, natural gas, which is exempt from the federal Output Based Pricing System (OBPS) in

[1] FleetCarma, 2021
[2] IESO, Annual Planning Outlook, 2020
[3] Strategic Policy Economics, Advancing Ontario's Energy Transition Part 1: Electrification Pathways, 2021
[4] IESO, Annual Planning Outlook, 2020

Ontario. The PWU recommends that the credit revenues from EV charging should be used to also incent low carbon electricity infrastructure in tandem with efforts to encourage EV adoption.

Recommendation #3: Ensure all imported fossil fired electricity generation is addressed by the CFS.

The PWU supports the broad application of the CFS to imported fossil fuels and agrees that the CFS should ensure that Canadian companies are competitive in emerging carbon-performance based international markets.

In the proposed regulations, the emissions associated with imported electricity from carbon emitting generation do not appear to be accounted for when calculating the carbon intensity for EV charging. As noted in the discussion of Recommendation #1, imports could be the most carbon intensive source of electricity being used to charge EVs. Emissions from imported electricity require accounting to ensure Canadian low carbon electricity suppliers are not at a competitive disadvantage given the low-cost nature of fossil-fired generation. As it stands, the CFS proposed regulation may be a disincentive for the creation of low-carbon electricity.

Recommendation #4: Provide a public review of the value of the CFS and its various initiatives in 2025.

The proposed CFS regulatory approach, published in June 2019, included a requirement for a five-year review of the regulations. This is intended to ensure the objectives are being met and that any required changes are implemented by 2030. However, this requirement is not evident in the proposed regulations themselves and the accompanying regulatory impact analysis describes only a review of the carbon-intensity reduction requirements after 2030. As the PWU has previously submitted, the five-year review of the program should consider:

- Increasing the CFS' emission reduction target, depending on the program's success in support of achieving Canada's climate goals;
- Strengthening successful program elements that encourage fuel switching;
- Assess the effectiveness of the balance of how credits are applied to incenting EV adoption and enabling charging and clean electricity infrastructure; and,
- Adjusting or abandoning less successful program elements not demonstrating a cost benefit.

The regulatory impact analysis for the CFS states that the impact of the program may depend on many unknowns, including future government action to reduce emissions. A review of the program should be considered as these facts come to light.

Closing

The PWU provides these comments and recommendations in support of reducing Canada's carbon emissions. We look forward to continuing to work with the ECCC and other stakeholders to help achieve Canada's climate goals. The PWU is committed to the following principles: create opportunities for sustainable, high-pay, high-skill jobs; ensure reliable, affordable, and environmentally responsible electricity; build economic growth for Ontario's communities; and, promote intelligent reform of Ontario's energy policy.

We believe these recommendations are consistent with, and supportive of, the federal government's objectives to reduce carbon emissions for all Canadians. The PWU looks forward to discussing these comments in greater detail.