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Paola Mellow  
Executive Director  
Low Carbon Fuels Division  
Carbon Markets Bureau  
Department of the Environment  
351 Boulevard St. Joseph  
Gatineau, Quebec  
K1A 0H3

via Email: [ec.cfsnec.ec@canada.ca](mailto:ec.cfsnec.ec@canada.ca)

**Re: Canada Gazette, Part I, Volume 154, Number 51: Clean Fuel Regulations,  
December 19, 2020**

The Renewable Fuels Association (RFA) appreciates the opportunity to provide comments in general support of the proposed Clean Fuels Regulations. A science based, well-designed program will drive technological innovation, provide consumer choice, stimulate investment in clean energy and reduce climate change emissions from the transportation sector. We have also submitted more detailed joint comments in conjunction with the U.S. Grains Council and Growth Energy.

RFA is the leading national trade association representing U.S. fuel ethanol producers. Its mission is to advance the development, production, and use of low-carbon ethanol by strengthening America's ethanol industry and raising awareness about the benefits of renewable fuels. Founded in 1981, RFA serves as the premier forum for industry leaders and supporters to discuss ethanol policy, regulation, and technical issues. RFA's 300-plus members are working daily to help America become cleaner, safer, more energy secure, and economically vibrant.

We appreciate the performance-based approach to reducing transportation-related greenhouse gas (GHG) emissions that has been proposed by Canada. Setting a technology-neutral carbon reduction objective allows market participants to meet the standards in a way that makes the most sense for their operations and is most economically efficient for consumers. Further, a performance-based design that focuses on carbon reduction rather than choosing technology winners and losers rewards innovation and efficiency.

Ethanol is already reducing climate change emissions from the transportation sector and there is room for more growth. The proposed Clean Fuels Regulations will be critical in providing consumer options and spurring innovations in transportation fuels. RFA believes that renewable fuel, especially ethanol, can further decarbonize passenger cars and light-duty trucks today. Promising research and development initiatives show ethanol can also power medium-duty and heavy-duty engines in the future as well. Using newly developed combustion technology, ethanol can now be used at 100% levels in both large displacement compression-ignition (diesel) engines as well as more moderate displacement spark-ignited engines – thus eliminating petroleum fuel and its attendant emissions.

According to the California Air Resources Board, Oregon Department of Environmental Quality, and U.S. Departments of Energy and Agriculture, today's ethanol reduces greenhouse gas emissions by an average of 35-50% compared to petroleum fuels and is on a technological curve to be carbon neutral or even carbon negative. Ethanol's shrinking carbon footprint was confirmed by a recent

study conducted by scientists affiliated with Harvard University, Tufts University, and Environmental Health & Engineering, Inc. The authors found the “central best estimate” of corn ethanol’s carbon intensity is 46% lower than the average carbon intensity of gasoline, with some corn ethanol in the market today achieving a 61% reduction.

As more proof that market-based clean fuel standards work to accelerate decarbonization, California’s Low Carbon Fuel Standard (LCFS) program has encouraged lower carbon intensity (CI) fuels, and investment in new technologies has led to a reduction of more than 30% in ethanol’s average CI score since LCFS enforcement began in 2011. In both California and Oregon, the LCFS and Clean Fuel Standard (CFS), respectively, have also driven significant growth of E85 (85% ethanol blends for Flex Fuel Vehicles), which boasts a 50-75% reduction in carbon intensity per mile over gasoline.

The ethanol sector is continuing to lower its carbon intensity. Intelligent low-carbon fuel policies are incentivizing ethanol producers to integrate technologies like carbon capture and sequestration (CCS), combined heat and power (“cogeneration”), and biogas thermal energy systems. For importers, these technologies should all count toward a lower carbon intensity score for finished fuel in Canada, regardless of where the carbon is reduced or stored.

### **Assessing lifecycle emissions; Fuel Lifecycle Assessment (LCA) Model**

The Fuel LCA Model is of utmost importance for an efficient and well-functioning clean fuel program, as a fuel’s calculated carbon intensity value is the currency of the CFR. The decision to create another new lifecycle analysis model for the CFR has caused uncertainty and seems unnecessary. We encourage Canadian regulators to revisit the use existing lifecycle models—like GHGenius and GREET—for the purposes of determining CI values under the proposed clean fuel standard. Still, we respect that the working group has put much time into the development of a new LCA model. Releasing the details of that new LCA model now, even if it is not complete, would be beneficial to the current stakeholder process. We also request consideration of reciprocity, or an efficient conversion process for the ability to use other LCA models currently utilized in other jurisdictions (such as OR-GREET, CA-GREET, the EU RED model, etc.).

In closing, the contribution of ethanol to Canada’s supply of transportation fuels is important in many respects; ethanol provides farm economy benefits, diversifies the energy supply, and reduces tailpipe pollution and greenhouse gas emissions. Ethanol producers in both Canada and the U.S. have a track record of successfully supplying the marketplace for decades, and real GHG savings can be achieved with a fuel that is readily available today.

Ethanol’s low cost also provides an economic choice for consumers who may be unable to afford other low-carbon transportation options. The beauty of establishing annual requirements for decreasing the carbon intensity of transportation fuels is that how fuel producers and suppliers meet those annual standards is entirely up to them, meaning the lowest-cost options for reducing carbon emissions will typically win out. That competition means consumers continue to have choices when it comes to vehicles and fuels.

RFA believes that renewable fuels like ethanol will continue to play an important role in combatting climate change, and policies like the proposed clean fuel standard are instrumental in allowing renewable fuels to reach their potential. Thank you for the opportunity to share these comments.

Kelly Davis  
Vice President of Regulatory Affairs