



November 16, 2020

Ms. Cory Ann Wind
Clean Fuels Program Manager

Re: First Meeting, Clean Fuels Program Transport Sector Regulations Review, Oct. 29, 2020

Via email: OregonCleanFuels@deq.state.or.us

The Renewable Fuels Association (RFA) is supportive of Oregon's efforts to reduce GHG pollution from the transportation sector. We appreciate the opportunity to provide comments regarding Oregon's efforts to meet new ambitious targets for the Clean Fuels Program (CFP) in the post-2025 timeframe.

RFA is the leading national trade association representing U.S. 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.

RFA believes that renewable fuel, especially ethanol, can further decarbonize passenger cars and light-duty trucks today and in the near-term future. Promising research and development initiatives show ethanol could also help reduce emissions from medium duty and heavy-duty engines in the future as well.

Affordable low-carbon ethanol is available today for the transportation sector to help transition to the clean energy economy. 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. 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 70-75% reduction in carbon intensity per mile over gasoline.

Several questions arose during the first stakeholder meeting; we offer comment on those questions below.

➤ **Are the heavy duty EV vehicles going to be available as projected?**

Heavy-duty, long-haul trucking and other off-road applications which are major contributors to GHG, PM and NOx emissions, can be converted to using cleaner energy at a faster pace if low-carbon liquid fuels are used. Very substantial gains are possible for both GHG and criteria emissions – with the speed of implementation being the largest driver of near-term carbon displacement. Not waiting for the required infrastructure associated with electrification and/or hydrogen-based alternative will speed the adoption and resulting mitigation effects.

Oregon has abundant liquid fueling infrastructure. This infrastructure is largely already compatible with higher-alcohol fuels. The U.S. already produces large quantities of low carbon ethanol. Alcohol fuels, using newly developed combustion technology, can now be used at 100% levels in both large displacement compression-ignition (diesel) engines¹ as well as more moderate displacement spark-ignited engines – thus eliminating petroleum fuel and its attendant emissions.

Compression-ignition engine technology is now commercially available at 50% efficiency. This rivals hydrogen fuel cell efficiency, and can enable range-extended, small-battery, electrified vehicles that are much more cost effective and less dependent on infrastructure buildouts. Using and focusing on liquid fuels reduces the cost, volume, and weight challenges of on-board pressure vessel storage, which must be used with gaseous fuels.

➤ **In terms of scenarios, will there be recognition around infrastructure and fleet limitations on biofuels blending (E10 vs E15) in terms of what the compatibility is that in terms of the scenarios?**

Low carbon ethanol fuels like E15 for light duty vehicles and E85 for flex fuel vehicles help meet carbon reduction goals today. EPA has approved the use of E15 for more than 9 out of 10 cars on the road today. Ethanol is the lowest cost, highest octane fuel additive available. Consumers will also benefit from more competition and greater savings as E15 and E85 use expands.

Given that gasoline-ethanol blends have a long history of being used successfully and that ethanol is a renewable fuel with low carbon intensity and still trending down, increased use of ethanol in blends with gasoline is one way in which Oregon can make progress towards achieving its goals regarding climate change.

¹ <https://www.clearflameengines.com/>

In addition, there are advantages to the use of gasoline-ethanol blends above E15 with attention being focused on mid-level blends containing up to 30 percent ethanol (E30). Interest in E30 is sparked by the fact that it can be blended to achieve much higher octane ratings than current fuels, which would facilitate the use of higher compression engines, leading to higher fuel economy and lower greenhouse gas emissions than can be achieved with current fuels.

Equipment for distribution, blending, storage and dispensing of fuel, compatible with up to E15 and up to E85 (and thus also with mid-level concentrations) is widely available for all commonly expected fuel-handling uses. However, all fuel-handling equipment will need to be checked, and updated if necessary, to ensure compatibility with any new fuels.

E15 – E85 blends must be stored, transferred and dispensed from equipment appropriate for these fuels. Listing by Underwriters Laboratories (UL), which tests for compatibility, is available for all the different kinds of fuel-handling infrastructure and a significant portion of the existing underground storage infrastructure, installed after 1989, readily meet current materials compatibility requirements for E15.

While not all materials are appropriate for all fuels, vehicle OEMs and manufacturers of fueling infrastructure components have been able to select appropriate materials for flex-fuel vehicles and the E85 fuel infrastructure that have successfully handled all ethanol blends between E10 and E85 for many years. A process for review and approval of such equipment can be developed to assure ethanol blended fuels are stored and distributed in a safe and compliant manner.

RFA looks forward to reviewing ICF International’s technical analysis to assist in the development of the long-term illustrative compliance scenarios for GHG reductions. We believe ICF’s compliance scenarios should include expanded use of higher ethanol blends as a primary means of delivering greater GHG reductions in the future.

Ethanol will continue to offer economically competitive GHG reduction in a world of increasing sustainability. Promoting the efficient use of ethanol fuels will provide emissions benefits as well as support for future pathways of circular energy production and complete decarbonization.

Sincerely,

Kelly Davis
Vice President of Regulatory Affairs