July 9, 2021

Re: July 8-10, 2021, Workshop Series to Commence Development of the 2022 Scoping Plan Update to Achieve Carbon Neutrality by 2045.

The Renewable Fuels Association (RFA) appreciates the opportunity to submit comments in response to the California Air Resources Board's (CARB) Workshop Series for the 2022 update to the AB 32 Climate Change Scoping Plan.

The 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.

Since the inception of the California LCFS regulations, which were an early adopted program under AB 32, ethanol has played a key role in the program's success reducing GHG emissions by more than 26 million metric tons. Ethanol used in the State last year reduced GHG emissions by an average of 43% compared to gasoline. Some ethanol delivered GHG reductions more than 50%, while ethanol made from the cellulosic fiber in corn kernels registered 73% reduction on average.

A recent study by scientists from Environmental Health & Engineering, some of whom are affiliated with Harvard University and Tufts University concluded that 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.[1] The study credits recent efficiency improvements and the adoption of new technologies for the steady reduction in the lifecycle carbon intensity of corn ethanol.

Ethanol is targeting net zero emissions. Many ethanol producers will be able do this in advance of California's target date of 2045 for achieving statewide carbon neutrality. Proper accounting of soil carbon accumulation in corn fields, carbon capture and sequestration of the biogenic CO2 produced in the production process, using biogas for thermal energy and other technologies will continue shrink the carbon footprint of corn ethanol with some ethanol producers capable of achieving net negative carbon emissions.

As the 2022 Scoping Plan is updated, it is important to target aggressive decarbonization of the liquid fuel that will continue to power millions of vehicles in California for years to come. Decarbonization while also lowering criteria pollutants is the goal. Electrification has a critical

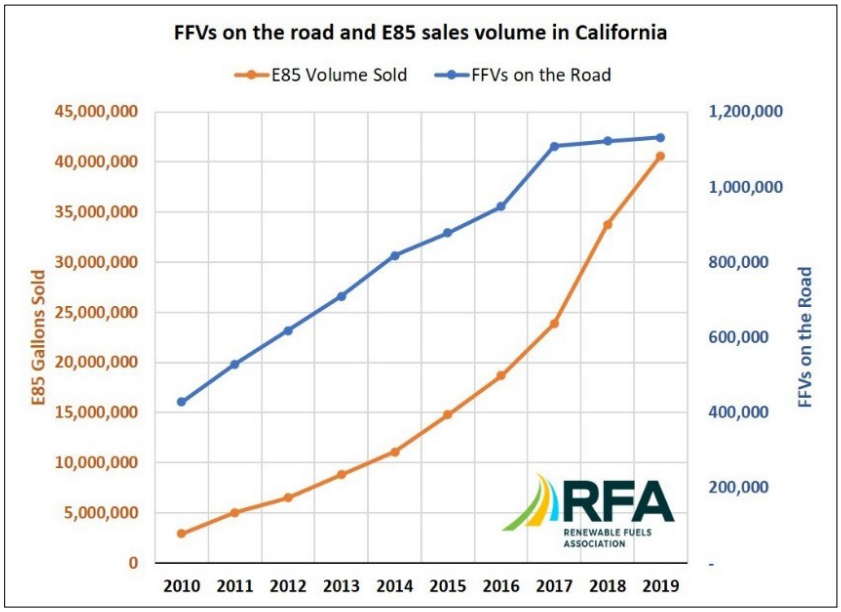
[1] Melissa J Scully et al 2021 Environ. Res. Lett. 16 04301

role to play longer term, but ethanol and other renewable fuels are providing significant decarbonization benefits today and can do much more now and into the future as the carbon intensity continues to decline and higher blends of ethanol are introduced. Tons of GHG emissions reduced today are more valuable in combatting climate change than those reduced in future years.

To provide the most rapid and affordable decarbonization for internal combustion engines sold until 2035, higher ethanol blends of E15 and above should be encouraged across the state through the following policy actions:

1. The State should expedite the approval of E15 as a legal fuel in California. This action alone has the potential for an immediate 50% increase in GHG reductions from ethanol in the existing light duty fleet. Ethanol has consistently priced in California at a discount to gasoline so this action would also benefit consumers at the pump.

2. The State should consider requiring that beginning as early as model year 2023, all internal combustion engine light duty vehicles sold in California be Flexible Fuel Vehicles (FFVs). As those vehicles age, this would help ensure their continued use with higher ethanol blends that will emit fewer toxic tailpipe emissions using an affordable low carbon fuel in the legacy fleet. Under the LCFS, the sales of high ethanol content E85 for FFVs continues to grow showing consumer acceptance as the retail station's offering have increased. The Plug-in Hybrids (PHEV), an important choice among lower income consumers, should also be FFVs as well to facilitate using less fossil-based fuels. Using renewable naptha or other renewable substitutes for the hydrocarbon portion of E85 can ensure that the fuel utilized in FFVs is 100% renewable maximizing GHG reductions that will be comparable to battery electric vehicles.



3. The State should incentivize renewable fuels production in California. A sustained market for higher blends of ethanol as liquid fuel use declines in the state will not only maximize petroleum displacement but will create a longer-term market signal for building new renewable fuel production from California biomass resources and new carbon capture and sequestration projects as part of renewable fuels production. This will drive further carbon reductions while creating new jobs and stimulating economic development.

In conclusion, ethanol, and other renewable fuels, compatible in most of the vehicles on the road today represent an immediate, mid-term and long-term opportunity for California to maximize GHG reductions, while proving affordable fuel to consumers and encouraging new economic development and job growth in the state. For these reasons, it is important for the Scoping Plan to include the positive contribution of low, zero and negative carbon renewable liquid fuels in achieving the goal of Carbon Neutrality by 2045.

We appreciate the leadership of California on carbon policy and look forward to working with CARB on the development of the 2022 Scoping Plan.

Sincerely,

Neil Koehler

Policy Advisor