September 3, 2021

Rajinder Sahota
Deputy Executive Officer
Climate Change & Research
California Air Resources Board
1001 I St
Sacramento, CA 95814

Re: 2022 Scoping Plan Update Scenario Concepts Technical Workshop

Dear Ms. Sahota,

The undersigned thank you for the opportunity to comment on the technical workshop on the Scoping Plan scenario models. Our organizations represent a collection of ethanol interests that are invested in helping California meet its AB 32 and Carbon Neutrality goals.

As an overarching matter, we appreciate the wide range of issues that the California Air Resources Board (CARB) is considering as part of the 2022 Scoping Plan Update. The Scoping Plan Update will set the course that California must take to meet these key climate goals. Given the importance of moving as expeditiously as possible, we encourage and support CARB's effort to remain on schedule to adopt an updated plan by the conclusion of 2022 as presented at the initial Scoping Plan kickoff workshop in June.

The specific recommendations listed below would help CARB achieve the earliest possible carbon-neutrality target, be it 2045, 2035, or sooner. Already ethanol has reduced more than 26 million metric tons of carbon in California, with a weighted average carbon intensity of 46% lower than gasoline. The carbon intensity of the fuel continues to drop as farmers and fuel producers invest in better techniques and technologies. Moving beyond the substantial yield and efficiency improvements that have already been made, agriculture and the ethanol industry are targeting net zero emissions utilizing soil carbon sequestration and other climate-smart farming techniques and CCS at the production facilities. As part of the Scoping Plan process, it is essential that the opportunities these technologies present be fully recognized in the scenario modeling.

The vital importance of ethanol and future renewable bio-based gasoline fuels to decarbonizing California's transportation sector is highlighted in the Institute for Transportation's study, "Driving California's Transportation Emissions to Zero." This report was funded by AB 74 to identify strategies to reduce emissions from transportation energy use. As illustrated by the

following bar chart, the ITS scenario envisions a complete conversion from petroleum gasoline to ethanol and bio-based gasoline by 2045.[1]

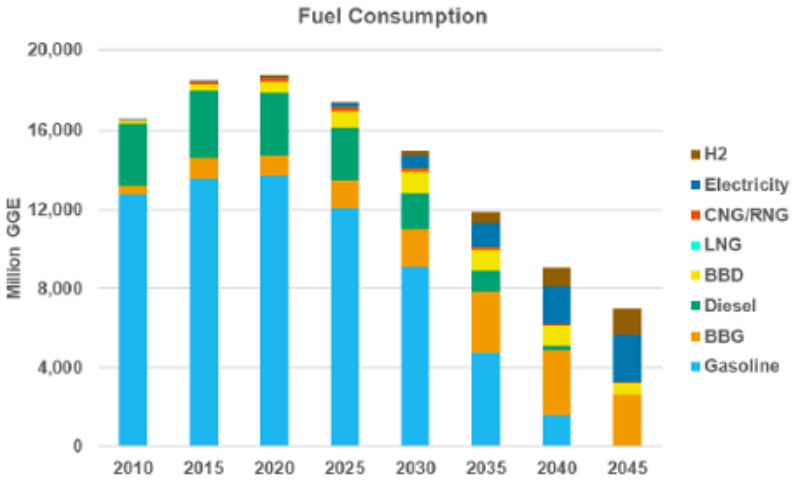


Figure EX-2. CO_2 emissions and fuel consumption projections in the LC1 scenario. The near-zero CO_2 emissions target is reached by 2045, with nearly all fossil fuels replaced by electricity, hydrogen, and biofuels at that date. (MMT, million metric tonnes; SAF, sustainable aviation fuel; H2, hydrogen; CNG/RNG, compressed natural gas/renewable natural gas; LNG, liquefied natural gas; BBD, bio-based diesel, including biodiesel and renewable diesel; BBG, bio-based gasoline, including ethanol blends and drop-in gasoline replacement fuels)

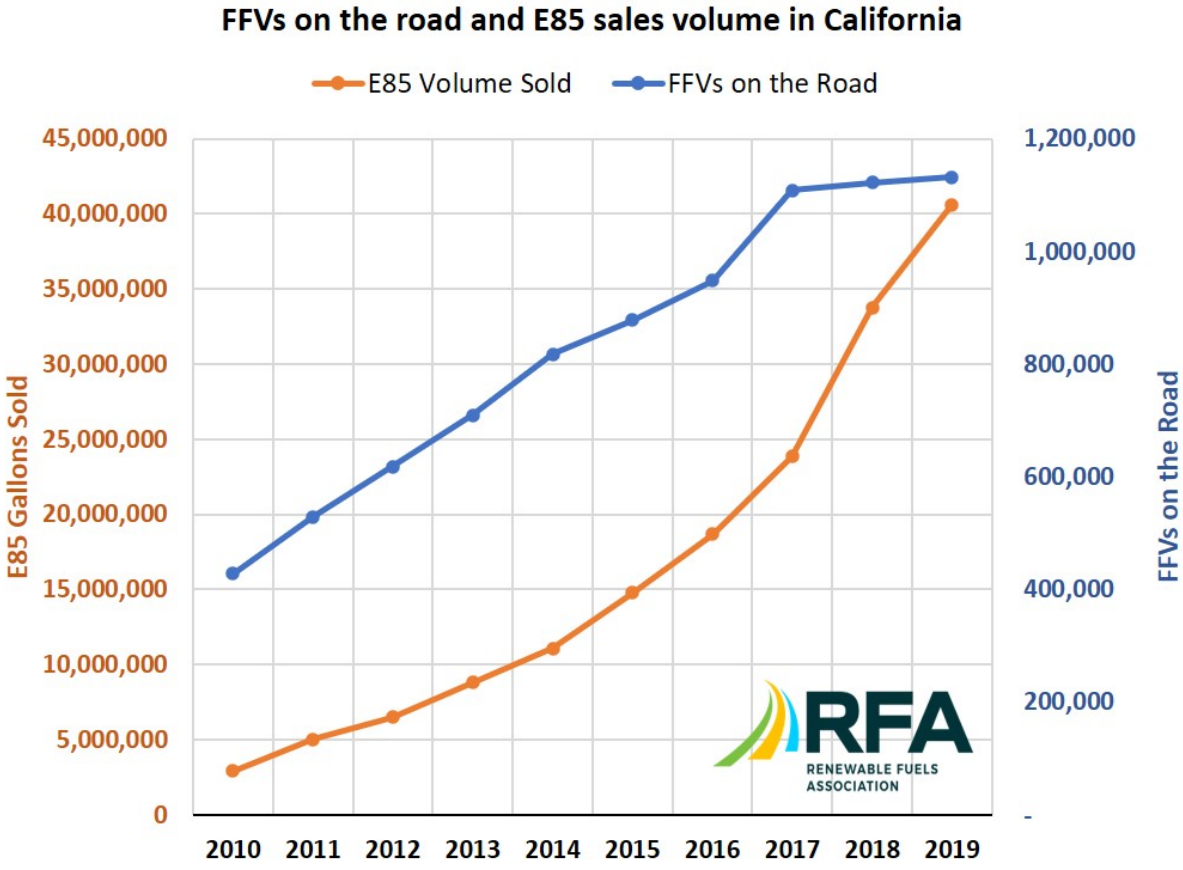
In addition to the well-established GHG reduction benefits, a forthcoming tailpipe and evaporative emissions study conducted by U.C. Riverside shows moving from a 10% ethanol fuel blend to a 15% ethanol blend (E15) generates additional air quality and criteria pollutant benefits.

With significant numbers of internal combustion engines still on the road today, it is incumbent to reduce fossil fuel use in those engines as much as possible, as quickly as possible. To provide the most rapid and affordable decarbonization for internal combustion engines sold until 2035, E15 and higher ethanol blends (including flex fuels like E85) should be encouraged across the state through the policy actions below. These strategies can be incorporated into CARB's scenario models to help deliver faster carbon-neutrality.

1. 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. In California, ethanol has been consistently priced at a discount to gasoline, so this action would also benefit consumers at the pump.

[1] University of California Institute of Transportation Studies, "Driving California's Transportation Emissions to Zero," at https://policyinstitute.ucdavis.edu/ca-carbon-neutrality/ , at Figure EX-2, p. 4.

2. The State should consider requiring that beginning as early as model year 2024, any internal combustion engine light-duty vehicle (i.e., all non-battery electric vehicles) sold in California be Flexible Fuel Vehicles (FFVs). As those vehicles age, this would help ensure their continued use with higher biofuel blends consistent with the ITS study that will emit fewer toxic tailpipe emissions using an affordable fuel. Under the LCFS, the sales of high ethanol content E85 for FFVs continues to grow, showing increased consumer acceptance and adoption by retail stations. Plug-in Hybrids (PHEV), an important choice among lower income consumers, should also be FFVs as well to facilitate using a minimum of fossil-based fuels. Using renewable naphtha 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 LCFS program should be extended beyond 2030 in a form that is consistent with the Carbon Neutrality goals of the state. Specifically, the program should incorporate crediting for agricultural soil carbon sequestration techniques given the significant opportunity for GHG reductions with appropriate incentives and accounting.

In conclusion, ethanol in a wide range of blend levels above today's typical 10% blend represents 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 GHG modeling to consider and recognize the positive contribution of low, zero and negative carbon renewable liquid fuels in achieving the goal of Carbon Neutrality, be it by 2035 or 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,

Renewable Fuels Association
Geoff Cooper, President & CEO

Growth Energy
Emily Skor, CEO

National Corn Growers Association
John Linder, President

Aemetis Inc.
Eric McAfee, CEO

Alto Ingredients Inc
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