

March 15, 2023

California Air Resources Board
1001 I Street
Sacramento, CA 95814
VIA ONLINE SUBMISSION

RE: Low Carbon Fuel Standard – February Workshop

The Western Propane Gas Association (WPGA) is pleased to submit its comments in response to the Low Carbon Fuel Standard (LCFS) Public Workshop: Potential Regulation Amendment Concepts, held on February 22, 2023.

RENEWABLE PROPANE AS A LOW-CI FUEL

We would like to thank CARB staff for recognizing the value of renewable propane in decarbonizing “hard-to-electrify” segments of California, and for justly calculating a lower Carbon Intensity (CI) of fossil propane under the GREET4.0 proposed model. We will be submitting feedback through the appropriate site to clarify assumptions underlying the model that we believe still overcalculate the carbon emissions of fossil propane. Though it is worth noting that renewable propane can deliver up to 90% carbon emissions reduction and emits the same low NO_x, SO_x, and PM as fossil propane.

We also thank staff for the acknowledgement of need to continue support for biomethane crediting and recognizing the need to support multi-purpose low-CI fuels like renewable propane.

CROP-BASED BIOFUELS VALUE

Regarding crop-based biofuels, we believe that these fuels are a highly important component in the future of LCFS, particularly in light of the increasing uptake of low carbon fuel standards across the U.S. increasing regional and national demand. Fuels derived from cover crops like camelina oil are in the pipeline for production, and there is data highlighting that CARB's estimated indirect land use impacts from other crop-based biofuel production, including soybean, is perhaps more than double what the actual CI value is. CARB's assumption of indirect land-use change (LUC) is 29 gCO₂eq/MJ but there is growing evidence that LUC emissions for all soybean oil variety pathways are 9.3 and 9.2 gCO₂eq/MJ for biodiesel and renewable diesel, respectively.¹

INACCURATE REPORTING OF LIFECYCLE CI SCORES

¹ "Effects of soybean varieties on life-cycle greenhouse gas emissions of biodiesel and renewable diesel"; Yuan Li, Hui Xu, Systems Assessment Center, Energy Systems and Infrastructure Analysis Division, Argonne National Laboratory, Daniel Northrup, Galvanize Climate Solutions LLC, Michael Wang, Systems Assessment Center, Energy Systems and Infrastructure Analysis Division, Argonne National Laboratory; Accepted December 14 2022; DOI: 10.1002/bbb.2462; Biofuels, Bioprod. Bioref. (2022)

Regarding infrastructure funding for electric vehicles, we would argue that LCFS regulation must include a detailed life cycle accounting for differing battery technologies and their charging infrastructure demands, since they are now eligible for increased crediting under this draft. Unless EVs are proposed to be powered directly by guidewires connected to the grid, the carbon intensity of batteries - from refinement to delivery - and charging infrastructure are absolutely a component of the total CI of battery electric vehicles and equipment. As CARB has demonstrated, there are already robust models for determining hyper local supply chain carbon intensities, as seen with crude calculations. Considering raw minerals and refining for batteries utilize some of the exact same rail and shipping as crude supplies, CARB may already have the bulk of the data necessary to make this calculation within the next LCFS draft.

FEWER INFRASTRUCTURE CONCERNS FOR DROP-IN LOW-CI FUELS

WPGA anticipates significant growth in the CA market for renewable propane-powered medium- and heavy-duty fleets pursuant to the Advanced Clean Fleets regulation and believe as a drop-in transition fuel it can significantly decrease emissions from this sector, greatly assisting in decarbonizing of that sector. We would also like to note that renewable propane, like many other renewable fuels, is not reliant on any significant infrastructure investment to immediately distribute resources and decarbonize numerous sectors of the economy.

CRITICAL ZERO EMISSION FORKLIFT RULEMAKING PROBLEMS

We have serious concerns regarding the inclusion of any assumptions regarding the electrification of all remaining internal combustion engine forklifts. As CARB is aware, there are two different rulemakings which seek to address emissions from forklift fleets. We would point out that the current Zero Emission Forklift rulemaking addressing large-spark ignition (LSI) engines is not final and has numerous outstanding and unanswered questions regarding its modelling and assumptions. Just a portion of these include:

- unaccounted consumer costs,
- emissions leakage,
- differentiations in emissions between model years,
- infrastructure challenges related to transitioning fleets,
- significantly limited BEV equipment for Class 4 through 6 forklifts with appropriate lift and haul loads, and
- challenges replacing existing fleets with anything close to a one-to-one replacement standard.

We would like to note that including any assumptions from that rulemaking into LCFS could prove highly problematic to all calculations based off of it and result in unlikeliness to meet LCFS target goals as drafted.

CONCLUSION

WPGA appreciates the opportunity to submit comments on the most recent CARB workshop. We look forward to working with CARB staff to further clarify any concerns and provide additional technical data to assist in improving the LCFS program.

Sincerely,



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