

February 20, 2024

California Air Resources Board
1001 I Street
Sacramento, CA 95814
Via Online Submission

Comments on Proposed Low Carbon Fuel Standard Amendments

Dear California Air Resources Board (CARB) Low Carbon Fuel Standard Program Staff:

Thank you for the opportunity to provide comments in response to the draft amendments to the Low Carbon Fuel Standard.

As background, Oberon is an innovative California company founded in San Diego 13 years ago with a focus on decarbonizing the global LPG/propane industry while laying the foundation for renewable hydrogen. We are accomplishing this today by producing renewable dimethyl ether (DME) at our Brawley, California production facility. Oberon's rDME® brand fuel can be made from various in-state waste streams (*e.g.*, dairy manure biogas, waste water treatment biogas), which can enable smaller, often stranded, biogas suppliers to participate in the LCFS program and produce low carbon DME.¹ Oberon's rDME fuel can reduce the carbon footprint of transportation when used as a: 1) blending agent with Liquid Petroleum Gas (LPG)/propane; 2) hydrogen carrier to power the growing fuel-cell electric vehicle and stationary source market; and 3) diesel substitute. This range of creative applications that clean fuels, such as DME, can support is underscored in the recently adopted 2022 Scoping Plan Update—DME along with other clean alternatives to petroleum are a key part of the solution if the state is to reach its legislatively-mandated greenhouse gas reduction targets.

Responses to Draft Amendments

Oberon strongly supports the proposed amendment package and urges adoption. In the 'Other Comments' section below we offer suggestions for further clarity where the draft amendment may benefit from a more fulsome consideration of rapidly developing technology and commercial practices.

We also express our gratitude for your engagement and support for DME and we note with pleasure the inclusion of DME on *Table 4. Energy Densities and Conversion Factors for LCFS Fuels and Blendstocks*.

¹ The California Air Resources Board has estimated dairy biogas-based DME made by the Oberon process has a carbon intensity of -278. rDME® is a trademark of Oberon Fuels, Inc.

Other Comments

- **Program Stringency**

While we believe that the proposed 5% step-down in stringency will help to course-correct the market, it simply does not go far enough considering the size of the cumulative credit bank, which is anticipated to increase its rate of growth as new clean fuel projects that have been or are being constructed bring more clean fuels to market. The step-down should be increased by at least 7%, which, for perspective, translates into a 2030 target of at least 32% reduction in the CI relative to the 2010 baseline. While a 7% step-down will still leave many credits in the cumulative credit bank, this single adjustment will translate into millions of additional tons of GHG emission reductions that would've otherwise gone unaddressed.

- **Avoided Methane Crediting**

CARB's draft regulatory language is silent on avoided emissions credits from feedstocks other than dairy, swine, and organics diverted from landfill. While we believe the current Tier 2 process is sufficient for a user to develop and CARB to approve avoided emissions credits for feedstocks such as poultry manure, project developers and users may benefit from further regulatory clarity.

- **Livestock Offset Protocol**

The Livestock Offset Protocol (LOP) uses methane conversion factors taken from Chapter 10 of the 2006 Intergovernmental Panel on Climate Change ("IPCC") entitled *Emissions from Livestock and Manure Management* ("Chapter 10"). Section 10.4 of Chapter 10 (pp. 35 – 52) provides these factors for many types of livestock in addition to dairy and swine, including poultry (both layers and broilers) and beef cattle. CARB may amend the LOP or create a separate LOP for the LCFS to add user clarity for other feedstocks.

- **Biomethane Crediting – Book-and-Claim**

CARB should expand the exemption to the deliverability requirements beyond hydrogen to include use in fuel production where biomethane is an intermediate feedstock if the finished fuel is physically delivered into California.

With appropriate limits and the verification and validation procedures CARB already has in place, we believe there is an opportunity to incentivize investments that deliver substantial reductions in greenhouse gas emissions while retaining the critical oversight and compliance that has been foundational to the success of the program.

- **Book-and-Claim of Low-CI Hydrogen**

We recognize that meeting California’s ambitious goals for deploying large scale hydrogen projects will need to incorporate low carbon intensity hydrogen carriers such as DME. We ask that CARB consider adding explicit language or clarity around the opportunity to apply Book-and-Claim for renewable hydrogen pathways that involve an intermediate step or use of hydrogen carrier-molecules. This approach is fundamental to rapidly ramping up the use of renewable hydrogen as envisioned by the Scoping Plan and the ARCHES effort.

- **Credit True-up**

The proposal includes true-up provisions where verified operational CI’s are drawn on to potentially adjust the credits based on certified CI’s. The proposal indicates that a shortfall (i.e., a verified operational CI that is higher than the certified CI upon which project credits were generated) will result in a penalty that applies a multiplier to the shortfall. Further, the language indicates that in the event the operationally verified CI is lower than the certified CI (i.e., it failed to generate as many credits as it could have) the Executive Order (EO) “may” make the appropriate adjustment (true-up) by awarding additional credits to the applicable fuel reporting entity. The word “may” should be deleted. If the operationally verified CI, including an affirmative verification statement, is lower than the certified CI that was the basis for credit generation, the EO “must” award the supplemental credits supported by the underlying documentation.

The concept of adjustment to credits based on operationally verified CI’s is sound. However, limiting the proposal to certified CI’s is a significant oversight. The proposal should be carried over and applied to temporary and provisional CI’s as fuel providers may rely on these CI’s for months, or even years, as a more refined pathway is evaluated and subsequently approved.

Recommendations for Future Action

Oberon encourages CARB to ensure there continues to be a market for low-CI liquid and gaseous fuels as they are an important decarbonization tool, especially in sectors that are hard to decarbonize. Oberon recommends that CARB send a clear policy signal that biofuels (e.g., biomethane, renewable propane, renewable DME) are necessary and effective decarbonization strategies in these other sectors (e.g., residential, commercial, industrial) and are fundamental to the state meeting its ambitious GHG reduction targets.

As the state transitions out of combustion in the transportation space gaseous and liquid fuels will continue to support the industrial, commercial, and residential sectors with escalating pressure to drive down GHG emissions. One approach for doing so is stronger signals and incentives for the production and use of low-CI fuels in those sectors.

Expanding the LCFS or creating a LCFS-like structure to help facilitate decarbonization of other gasoline-, diesel-, fossil natural gas-, and propane-fueled applications in residential, commercial, and industrial markets is an opportunity that merits attention. Doing so would reward investments and use of cleaner fuels by these legacy sectors that are not anticipated to be electrified for many decades. In the last year new domestic and international policies have been established to apply the LCFS approach beyond transportation fuels such as Vermont's Clean Heat Standard, the Canadian Clean Fuel Regulation, and the EU ETS II which cover both transportation and non-transportation fuel. Policy expansion, as signaled in the Initial Statement of Reasons for the proposed LCFS amendments, will support additional reductions in greenhouse gas emissions by further accelerating the market development of low carbon fuels such as renewable DME.

Thank you for your time and consideration. Please do not hesitate to contact me at cristin.reno@oberonfuels.com with any questions.

Sincerely,

A handwritten signature in black ink that reads "Cristin Reno".

Cristin Reno
Manager, Regulatory Affairs
Oberon Fuels

