

September 19, 2022

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

### **Comments on August 18 Workshop LCFS Regulation**

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

Thank you for the opportunity to provide comments in response to the “Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard” held August 18, 2022. We appreciate CARB hosting this workshop.

Oberon is pleased to be able to provide comments on several areas of LCFS policy. We will also summarize our prior remarks.

As background, Oberon is an innovative California company founded in San Diego 12 years ago with a focus on decarbonizing the global LPG/propane industry while laying the foundation for green hydrogen. We are accomplishing this today by producing renewable dimethyl ether (rDME) at our Brawley, California production facility. rDME can be made from various in-state waste streams (e.g., dairy manure biogas), which can enable smaller, often stranded, biogas suppliers to participate in the LCFS program, thereby creating commercial opportunities under the program, avoiding wasteful non-fuel uses of low carbon feedstocks and providing similar or reduced greenhouse gas emissions for the DME lifecycle.<sup>1</sup> rDME 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 market; and 3) diesel substitute.

### **Responses to August 18 Workshop Presentation**

**“True Up” Provisions:** Oberon would support true-up provisions on an annual basis for all pathways immediately upon certification. This should remove complexity and guesswork, drive further accuracy for credit and deficit generation, and support new deployments and technologies. Oberon suggests expanding the true-up beyond temporary pathways to apply to all pathways (including but not limited to provisional pathways) on an ongoing basis.

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<sup>1</sup> The California Air Resources Board has estimated dairy biogas-based DME made by the Oberon process has a carbon intensity of -278.

**Hydrogen Calculator:** Oberon supports development of a Tier 1 H<sub>2</sub> calculator. As a fuel producer anticipating near-term hydrogen production, further developing the regulatory framework for hydrogen pathways is a helpful enabling step. While Oberon is likely to utilize the Tier 2 process, having an available Tier 1 simplified calculator will also help streamline our application and make reviews by CARB staff and verification bodies simpler and faster. We anticipate this would likewise facilitate more predictable annual reporting by making it easier for parties to routinely re-calculate their operational carbon intensity (CI) during the year. A Tier 1 simplified calculator should also promote more orderly and cost-effective annual verification of fuel pathway holder reports.

We point CARB back to our comments to the July 2022 workshop regarding broader use of book-and-claim within the hydrogen pathways as an example (see infographic on p.6 and reproduced below) and request that CARB continue to solicit stakeholder engagement on this topic.

**Emission Factor Updates:** Oberon supports using the latest emission factors and look forward to future updates from CARB on this topic.

### **Additional Comments for Consideration**

**Avoided Emissions Updates:** As discussed in our comments in response to the July 2022 workshop, Oberon strongly urges CARB to remove any ambiguity in the current regulations that may restrain, if not prevent, the development of projects with pathways whose CI scores reasonably reflect credit for avoided methane emission. We strongly urge CARB to make full use of its regulatory discretion and the Tier 2 pathway process to evaluate and approve novel feedstocks and pathways that include avoided methane emissions, beyond the specific requirements for dairy or swine manure digestion or organic material diverted from a landfill.

Avoided methane emissions are tremendously important because they represent immediate and significant avoidance of potent methane greenhouse gas emissions that threaten to lock-in large warming impacts relative to similar quantities of CO<sub>2</sub>. Staff should therefore invite and encourage applicants with avoided methane projects.

The current ambiguity stems from the rules as written in 17 CCR 95488.9(f), which provide specific instructions for avoided methane emissions for dairy or swine manure or organic material diverted from a landfill, but not for other feedstocks.

Emissions from dairy and swine manure, and organic material diverted from landfill, are subject to other California statutory and policy considerations and therefore the aforementioned LCFS provisions are necessary to ensure statutory

alignment and to explicitly emphasize that such projects must be additional to any other legal obligations. The qualifier to the inclusion of avoided emissions in fuel pathways in § 95488.9(f) is that the emissions reductions must be achieved by “voluntary capture of methane”<sup>2</sup>, and by “voluntary diversion from decomposition in a landfill”<sup>3</sup>. This is emphasized in (f)(1)(B) and (f)(2)(C), both of which provide that the quantity of avoided methane used in the CI calculation is “additional to any legal requirement for the capture and destruction of biomethane”. The remainder of § 95488.9(f) reinforces this viewpoint and focus on interaction with other California law.

In short, § 95488.9(f) has three subparts covering the circumstances in which avoided methane credit may appear in pathways for certain biomethane feedstocks. As noted above, § 95488.9(f)(1) has specific requirements for dairy and swine manure. Section 95488.9(f)(2) has specific requirements for organic material diverted from decomposition in a landfill. Section 95488.9(f)(3) provides general requirements for dairy and swine manure and organic waste projects.

There is no room for interpretation that § 95488.9(f) prohibits CARB from considering avoided emission reductions for other types of projects or pathways. We note first that § 95488.9 (f)(3) discusses “organic waste projects” - not necessarily “organic material” that is “voluntary[ily] diver[ted] from decomposition in a landfill. This can reasonably be interpreted as CARB acknowledging that other types of organic waste projects may exist and provides special case rules for them under (f)(3)(B) and (f)(3)(C) to avoid future regulatory conflict.

However, even if CARB takes the view that “organic waste projects” referenced in § 95488.9(f)(3) are equivalent to “organic material” voluntarily diverted from a landfill as referenced in (f)(2), then at best the provisions of § 95488.9(f) can only be read as silent on all other types of projects or pathways which could reasonably claim credit for avoided methane emissions. Without an express prohibition on other such projects’ eligibility and given the open pathway application process provided by the Lookup Table, Tier 1 and Tier 2 options, an applicant should be able to propose an avoided emissions project for CARB’s consideration. Statutorily, the door is open to applicants and CARB must conduct a fair review process. The Tier 2 pathway process supports this approach. As stated in § 95488.1. Fuel Pathway Classifications (d):

The Tier 2 pathway classification shall apply to fuel pathways that the Board’s staff has limited experience evaluating and certifying, including fuel pathways that are not currently in widespread commercial production. The

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<sup>2</sup> See 17 CCR 95488.9(f)(1)

<sup>3</sup> See 17 CCR 95488.9(f)(2)

Tier 2 classification includes all fuel pathways not included in Tier 1 or the Lookup Table pathways.

The Tier 2 classification specifically includes in (d)(2) “Biomethane from sources other than those listed under the Tier 1 classification in (c)(5)” as well as “(d)(6) any fuel produced from unconventional feedstocks...”. In other words, the rules explicitly provide opportunities for a thorough and complete evaluation for biomethane projects from feedstocks that are not dairy, swine, food, urban landscaping, or other organic waste, and/or for biomethane projects for which the CARB-developed simplified calculators do not capture material inputs necessary to evaluate the full fuel lifecycle.

Further, as noted in § 95488.7(d)(2), “Tier 2 pathways are expected to be unique with no predetermined life cycle analysis profile...” The rules make clear that the applicant can propose and model a carbon intensity that is scientifically defensible. While the specifics of an applicant’s project may vary, the general principle of avoided methane emissions is enshrined in the LCFS and in the practice of lifecycle assessment as scientifically defensible, auditable, and verifiable.

Therefore, no additional rule changes are necessary to allow CARB to process a Tier 2 pathway application that includes avoided methane emissions from a non-dairy, non-swine, and non-organic waste diverted from landfill feedstock. We recognize that creating category rules and moving new feedstocks to a Tier 1 pathway take significant effort. But given the mandates from the CARB Board, the Governor, and the voters of California, CARB staff should enthusiastically welcome Tier 2 applicants and engage with these early movers to begin developing robust data and encourage the fastest/largest emissions reductions achievable.

We encourage CARB to convene any workshops, data collection and stakeholder engagement necessary to provide broader guidance or create a Tier 1 calculator option for various classes of avoided methane emission projects. If necessary, CARB may wish to use the anticipated LCFS update amendments to provide whatever additional regulatory clarity or flexibility necessary to enable the win-win of rapid methane abatement through low-carbon fuel projects that achieve methane emissions avoidance.

**Summary of Oberon’s Comments to the July Workshop (Submitted August 8, 2022):**

We are providing below a summary of our comments submitted in response to the July Workshop, for incorporation and restatement with our current comments:

- Oberon supports an aggressive CI reduction target of 30 percent by 2030
- Oberon agrees with the Principles for Alignment
- Oberon believes CARB should focus infrastructure efforts towards hydrogen

- Oberon strongly supports the inclusion of DME as an opt-in fuel
- We suggest CARB apply or adapt the LCFS structure to help facilitate decarbonization of other gasoline-, diesel-, fossil natural gas-, and propane-fueled applications.
- To the maximum extent possible, CARB should harmonize the SLCPP's regulations to support further use of the LCFS to reduce dairy methane emissions.
- Increased production of rDME and other fuels through book-and-claim pathways would directly support, sustain, and speed implementation of the Scoping Plan's strategies for achieving success in fuels.
- Consider the example of hydrogen. rDME has unique value as a hydrogen carrier. One potential pathway to increase the amount of feedstock (and thus delivered renewable hydrogen), which Oberon can bring to market quickly would be to use RNG and book-and-claim accounting. Figure 1 (attached below) demonstrates this value chain. Here, book-and-claim is the key enabling tool to leverage existing infrastructure and repurpose industrial capacity to decarbonize fuels.

Thank you for your time and consideration. Please do not hesitate to contact me at [david.mann@oberonfuels.com](mailto:david.mann@oberonfuels.com) with any questions.

Sincerely,

David Mann  
Vice President, Regulatory and Government Affairs  
Oberon Fuels

Figure 1: RNG-Methanol-DME-H2 Value Chain

