



December 19, 2022

Rajinder Sahota
Deputy Executive Officer, Climate Change and Research
California Air Resources Board
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Re: Biomethane Issues Related to the Upcoming LCFS Amendments

Dear Ms. Sahota:

Air Liquide Advanced Technologies U.S. LLC (“Air Liquide”) submits this letter to comment on the Low Carbon Fuel Standard (“LCFS”) Public Workshop: Concepts and Tools for Compliance Target Modeling, held on November 9, 2022.

Air Liquide and its affiliated companies operate 128 facilities and employ over 2,000 people in California. Air Liquide’s parent and affiliated companies are the world’s leaders in industrial and medical gases. In California, Air Liquide is one of the largest producers of hydrogen for fuel-cell electric vehicles. Air Liquide is also a leading producer of renewable biomethane in the United States.

Biomethane is a critical component in meeting California’s current and future climate goals. In many cases, biomethane has a negative carbon intensity; that is, the use of biomethane for transportation may result in a net decrease in greenhouse gas emissions, on a carbon-dioxide-equivalent basis. We support CARB’s view, as stated in the Draft 2022 Scoping Plan Update, that biomethane can and should displace other gaseous fuels in a wide range of sectors, and especially in transportation.

During staff’s presentation at the November 9, 2022 workshop, CARB proposed three potential modifications to the LCFS that would reduce the use of biomethane in California and would likely result in increased greenhouse gas emissions.

1. Phase-out of credits for avoided methane emissions

Staff proposed three alternative amendments to the LCFS, two of which would phase out pathways based on avoided-methane emissions. Phasing out avoided-methane pathways would eliminate a market incentive to reduce emissions of one of the most significant greenhouse gases. Methane has a global warming potential approximately 25 times higher than carbon dioxide and, according to CARB, is responsible for about 20 percent of global warming. Reducing methane emissions is an essential part of the State’s climate agenda. A phase-out of avoided-methane

pathways would not be consistent with the Scoping Plan Update, which directs CARB to focus on reducing methane emissions.

With respect to California sources, a phase-out of avoided-methane pathways is not necessary to reduce methane generation from landfills and manure operations. Landfills are already subject to methane-control regulations, and the State has enacted a law (SB 1383) requiring diversion of organic wastes from landfills. Manure digesters are not currently subject to methane-control regulations, but CARB has been empowered by SB 1383 to adopt such regulations and begin enforcing them in 2024.

Because the LCFS only credits avoided-methane emissions that are not subject to legal controls, no party can claim credit for avoiding methane emissions that are subject to legal controls. Once the regulations authorized by SB 1383 go into effect, that will automatically eliminate avoided-methane pathways that are based on emissions subject to new legal controls. Allowing avoided-methane pathways does not increase the amount of methane emitted in California; it simply allows the capture and destruction of methane that otherwise would not be subject to any legally required controls.

In other states where methane sources may not be controlled, allowing credits for methane capture minimizes the amount of this potent GHG that may be emitted. If California phases out avoided-methane pathways and removes part of the market incentive to capture methane, that will result in more of this potent greenhouse gas being emitted to the atmosphere.

Overall, Air Liquide believes that eliminating avoided-methane pathways would result in a significant decrease in the supply of renewable fuels. Over the six calendar quarters ending in June 2022, biomethane accounted for 49% of the feedstock used for renewable hydrogen production. A phase-out would reduce investment in biomethane sources, and thus the supply of biomethane for hydrogen production. It may also result in an increase in the cost of renewable fuels, including hydrogen, because as the supply of biomethane feedstock is reduced the price will increase, thus increasing the price of hydrogen produced with biomethane.

2. Restricting book-and-claim accounting for biomethane to Western US only

Two of CARB's alternatives for the LCFS amendments would restrict book-and-claim accounting for biomethane used as a transportation fuel to sources within the western United States. Staff's presentation states that this restriction would "[h]armonize [book-and-claim] policies between electricity and RNG."

Such a restriction would create only a false and unnecessary consistency, and would do nothing to reduce GHG emissions. The electric grid and the natural gas pipeline network are sufficiently different that attempting to make the rules applicable to electric and gaseous fuels identical is not a realistic goal. CARB should instead focus on establishing policies that minimize emissions from electricity and gaseous fuels. Reducing the geographic area from

which renewable biomethane can be supplied to California fuel producers would not reduce emissions but would simply raise the cost of renewable biomethane in California.

Restricting book-and-claim accounting to the western United States may also make the LCFS regulation vulnerable to legal attack as an undue burden on interstate commerce. CARB has been very careful to provide a level playing field in the LCFS for both in-state and out-of-state suppliers, but a restriction on book-and-claim accounting that discriminates against biomethane sources in the eastern United States could be viewed as an arbitrary measure that harms certain out-of-state sources without sufficient justification. None of the natural gas supplied by out-of-state sources can be traced physically from any particular source to any particular destination; all such gas is supplied on a book-and-claim basis. Barring sources that are not connected to the western natural gas pipeline network from participating in book-and-claim could therefore be seen as an arbitrary method of excluding certain out-of-state suppliers from the market. There is no good policy reason to take such a legal risk.

If CARB determines that modifications to book-and-claim accounting are required then, rather than restricting book-and-claim accounting, CARB should consider revisions to strengthen those aspects of the system that CARB determines are problematic. For example, to address concerns regarding verification that renewable feedstocks and fuels have in fact been supplied to California fuel producers and have not been double-counted, CARB should consider strengthening the recordkeeping and attestation requirements, so that each participant in the chain of distribution is required to attest to the chain of custody of renewable feedstocks and fuels.

There are no borders in the atmosphere, and CARB has acknowledged that emissions anywhere have the same effect as emissions in California. The State's goal should be to use the LCFS to reduce the carbon intensity of California fuels, even if that reduction results from emissions reductions in other states. Indeed, CARB already calculates the carbon intensity of many fuels based on lifecycle emissions in other states and internationally (e.g., ethanol-related emissions from Brazil). There is no reason not to take that approach with respect to biomethane.

3. Restricting book-and-claim accounting for landfill gas to production of hydrogen

Finally, CARB staff also requested comment on a proposal to limit book-and-claim accounting for landfill gas to the production of hydrogen. Air Liquide opposes limiting landfill gas in this manner for two reasons: First, restricting the use of landfill gas would tend to reduce the incentives to make productive use of biomethane that would otherwise be flared to the atmosphere. Second, it would also fail to fulfill CARB's goal of promoting the use of landfill gas for hydrogen production. The best way to make landfill gas available for hydrogen production is to allow it to be used wherever economically beneficial. That will incentivize the market to develop capture and transportation infrastructure and create an efficient supply system.

4. Changes to the LCFS Should Account for Market Participants' Reliance

CARB staff's presentation for the November 9, 2022 workshop proposes 2025 and 2030 effective dates for changes to the biomethane crediting rules. If CARB makes any changes to the crediting rules, CARB should take account of private investments made in reliance on the existing rules. CARB should grandfather facilities that have been permitted or constructed, and allow a minimum of ten years of crediting under the existing rules. CARB's current regulations provide for a minimum crediting period of ten years for pathways based on avoided-methane emissions (see 17 C.C.R. Section 95488.9(f)(3)(B)). CARB should provide no less in any amendments that it adopts.

Air Liquide appreciates CARB's willingness to consider input from all stakeholders, and looks forward to working with CARB staff on the development of amendments to the LCFS regulation in 2023. We would also be happy to meet with CARB staff to discuss Air Liquide's comments.

Very truly yours,

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