



May 10, 2024

The Honorable Steven S. Cliff
Executive Officer
California Air Resources Board
Sacramento, CA 95814

Re: Proposed Amendments to the Low Carbon Fuel Standard Regulation

Dear Executive Officer Cliff:

I am writing on behalf of the Bioenergy Association of California (BAC) to comment on the proposed changes to Low Carbon Fuel Standard. BAC is extremely concerned that the proposed changes will hurt or even stop production of in-state biomethane at precisely the time when production needs to increase to meet the requirements of SB 1383 and other important state policies. In particular:

- The changes to avoided methane crediting, especially for diverted organic waste projects, could result in far higher value for out of state projects where landfill diversion is not required than for in-state projects that are helping to meet the requirements of SB 1383.
- The failure to adopt a meaningful delivery requirement will continue to put in-state projects at a disadvantage since California has more stringent environmental, labor, pipeline injection, and other standards.
- The definition of “food scraps” should be corrected to be consistent with CalRecycle’s definition.
- The increased carbon intensity reduction required in 2030 is not sufficient to boost credit prices and should be more stringent with a more significant step down in 2025 target and a 2030 target of 35 percent.
- CARB should move forward on the development of new markets for biomethane, as committed to in the Advanced Clean Fleets resolution adopted in April 2023.

BAC represents about 100 public agencies, private companies, and non-profit organizations working to convert organic waste to energy. BAC’s public sector members include cities and counties, Tribes, local air districts, environmental and solid waste agencies, wastewater treatment facilities, public research institutions, community and environmental groups, and a publicly owned utility. BAC’s private sector members

include bioenergy project developers, technology providers, investors, an investor owned utility, waste haulers, food processing and agricultural companies, and more.

BAC submits the following comments on the proposed changes to the LCFS.

1. The Proposed Phaseout of Credit for Avoided Methane Should be Consistent with SB 1383 and Should Not Put Instate Producers at a Severe Disadvantage.

The proposed regulations will severely impact instate projects that are converting diverted organic waste into low carbon fuels. The 45-day language released in January would end credit for avoided methane emissions that are required by law, but California is the only state with a 75 percent landfill diversion target beginning next year. That means that diverted organic waste projects in California may no longer receive credit for avoided methane emissions, but out of state projects using diverted organic waste will continue to receive credit for avoided landfill emissions.

As a consequence, out of state fuels produced from diverted organic waste could still have carbon intensities of negative 100 to negative 200 while instate fuels produced from diverted organic waste would have positive carbon intensities and be worth a small fraction as much under the LCFS. The LCFS would then provide far greater incentives for out of state projects than instate projects doing the same thing. This will slow or potentially even reverse progress in reducing California's organic landfill waste, impair progress in meeting the requirements of SB 1383, and put instate projects at a huge disadvantage.

Combining this change with the failure to meaningfully phase out credit for undelivered biomethane essentially means that the LCFS will no longer work for diverted organic waste projects instate that can no longer compete with out of state projects. This is exactly the opposite of SB 1383's requirement that state agencies adopt policies and incentives to increase the instate production of biogas and biomethane.¹

Ending the avoided methane credit for diverted organic waste projects is also not supported by the science. SB 1383 requires landfill diversion of organic waste, but it does not require that diverted organic waste be converted to energy or fuels. CalRecycle's SB 1383 regulations authorize far higher emission alternatives to bioenergy, including compost production and mulch. Even if fuels from diverted organic waste should no longer receive credit for avoided landfill emissions, they should still receive credit for avoided emissions from other allowable alternatives such as compost production. Numerous studies have found that bioenergy provides several times greater carbon reductions than compost. The State of Oregon's Department of Environmental Quality conducted a literature review of 148 separate studies and found that bioenergy plus composting the remainder (digestate) provides 3.5 times greater

¹ Health and Safety Code section 39730.8.

carbon reductions than compost alone.² CalRecycle affirmed this recently when it determined that a diverted organic waste to hydrogen project will have lower emissions than if that same waste were converted to compost (the finding required under Article 2 of CalRecycle's SB 1383 regulations). None of this is to dismiss the value of compost, but where low carbon fuel can be generated instead, the difference in emissions should still be valued under the LCFS.

BAC urges CARB to correct the 45-day language on avoided methane emissions from diverted organic waste projects in the following ways:

- A. Update the calculation of landfill methane leakage to reflect actual monitoring data rather than outdated estimates. The Tier 1 calculator bases avoided methane emissions on significant underestimates of landfill methane emissions from poorly controlled landfills. According to a recent study by Harvard, actual emissions at those landfills is 50 percent greater than prior estimates.³ CarbonMapper, using monitoring data from NASA's Jet Propulsion Lab, has found that landfill methane leakage is three times higher than reported.⁴ To accurately account for avoided landfill emissions, it is critical to start with an accurate baseline of methane leakage at landfills.
- B. Do not discontinue credit for avoided methane emissions based on "targets" for landfill diversion that are not binding legal requirements. The 45-day language recognizes that credit should not be given for emissions reductions that are required by law, but SB 1383 only sets statewide targets, not binding legal requirements. Health and Safety Code section 39730.6(a) states that "methane emissions reduction goals shall include the following targets to reduce the landfill disposal of organics." (emphasis added) Since organics diversion is a target, not a binding legal requirement, the LCFS should continue to provide full credit for avoided methane emissions from diverted organic waste projects.
- C. If CARB decides nonetheless that it should phase out credit for avoided methane emissions from diverted organic waste, then it should do so only to the extent that organic waste is actually being diverted. This should be based on statewide diversion rates and updated every three years. For example, if California achieves statewide diversion of 25 percent of its organic landfill waste by 2030, the fuels generated from diverted organic waste would only receive 75 percent credit for avoided landfill emissions.
- D. Crediting for avoided landfill emissions should be the same for instate and out of state biofuels. Out of state fuels produced from diverted organic waste should be based on the same diversion rates as achieved in California so that projects in

² Morris, et al, *Evaluation of Climate, Energy, and Soils Benefits of Selected Food Discards Management*, Prepared for the State of Oregon Department of Environmental Quality, October 2014, Table ES-2 at page iii.

³ <https://www.ocregister.com/2024/05/04/tech-meets-trash-in-orange-countys-landfill-future/>.

⁴ Id. and <http://methane.jpl.nasa.gov/>

states without diversion targets do not have a competitive advantage over California projects that provide the same reductions and greater benefits overall.

- E. Biofuels (biomethane, electricity, or hydrogen) from diverted organic waste should continue to receive credit for the difference between their avoided methane emissions and the avoided methane emissions achieved by the highest emitting procurement product allowed under CalRecycle's SB 1383 regulations. As noted above, projects that produce both bioenergy and compost provide several times greater carbon reductions than compost only projects, so the LCFS should continue to provide credit for the additional methane reductions that fuels from diverted organic waste provide compared to other alternatives under CalRecycle's regulations.

These corrections to the 45-day language are essential to maintain progress on organic waste diversion and Short-Lived Climate Pollutant reductions.

2. BOOK AND CLAIM SHOULD BE CONSISTENT WITH THE RPS AND SB 1440.

BAC urges the Air Board to go back to the staff recommendations in 2022 and 2023 that would have phased out undelivered biomethane consistent with the RPS and SB 1440. As BAC noted in its February comments on the 45-day language, continued credit for undelivered fuels harms California's climate and air quality goals for several reasons, including:

- Undelivered biomethane does not help California to reduce SLCP emissions.
- Undelivered biomethane means that California vehicles will continue to use fossil gas, contradicting one of two primary goals of the program, which is to reduce fossil fuel use on the road in California.
- Allowing undelivered biomethane puts instate projects at a severe disadvantage since instate production can be significantly more expensive due to stronger environmental, labor, pipeline injection, and other standards.
- Undelivered biomethane does not help to reduce landfilling, pollution from dairies, or wildfire risks, nor does it provide as many jobs and economic development in California.

For all these reasons, BAC urges the Air Board to go back to the staff proposals on the LCFS, which would have phased out undelivered biomethane consistent with the RPS and SB 1440. The 45-day language does not do this in any meaningful way. Projects built before 2030 will never be required to deliver their biomethane to California. And projects built after 2030 do not have to show delivery until 2040 or later and, even then, only have to inject the biomethane into a pipeline that flows in the general direction of California. This is not a clear standard and definitely does not ensure that the

biomethane will help reduce SLCP emissions instate or provide other environmental benefits in California.

BAC supports the use of Book and Claim for biomethane that is both generated and used in California or the western United States, whether it is used offsite as biomethane, for low-CI electricity generation or for hydrogen production. BAC urges the Air Board to clarify in the amendments to the LCFS regulation that book and claim for biomethane converted to low-CI electricity is allowed, provided that both the biomethane and low-CI electricity production are consistent with the RPS. This could be done by adding conversion of biomethane to low-CI electricity in Sections 95488.8(i)(2) and 95488.8(g)(1)(A)(2).

3. CARB Should Identify and Develop New Markets for Biomethane, as Committed to in its Advanced Clean Fleet Resolution.

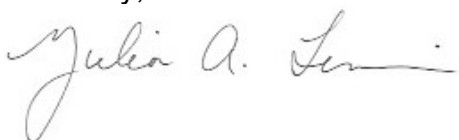
In its April 2023 Resolution on Advanced Clean Fleets, CARB recognized the need to develop new markets for biomethane to move it to hard to electrify end uses. As the Board Resolution stated:

“the Board recognizes that the successful implementation of the food waste diversion requirements and methane emissions reductions mandated by SB 1383 are critical to the State’s climate goals. The Board further recognizes that multiple reliable uses for non-fossil biomethane will be needed for successful implementation . . . As such, the Board directs staff to prioritize policy discussions related to SB 1383 and SB 1440 implementation and discussions on how to transition biomethane into hard to decarbonize sectors, or as a feedstock to produce hydrogen for FCEV fuel and to produce electricity to charge BEVs to achieve the SB 1383 target.”

BAC urges CARB staff to move forward on the development and implementation of new, reliable markets for biomethane as directed by the Board more than a year ago. This is critical to avoid backsliding on the state’s SLCP reductions, which will happen if biomethane is phased out of the transportation sector before new markets are developed. BAC looks forward to working with CARB on this and urges CARB to begin the process immediately.

Thank you for your consideration of these comments.

Sincerely,



Julia A. Levin
Executive Director