



Helping dairies fuel a renewable future

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December 21, 2022

Ms. Cheryl Laskowski
Branch Chief, Low Carbon Fuel Standard Team
California Air Resources Board

Submitted via LCFS Comments Upload Link

RE: CalBio Comments on CARB's November 9, 2022 Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard

Dear Ms. Laskowski:

Thank you for the opportunity to provide comments to the California Air Resources Board (CARB) on the second workshop to address "Potential Changes to the Low Carbon Fuel Standard," as presented by Staff on November 9, 2022.

California Bioenergy LLC (CalBio) is a leading developer of dairy digester projects. Founded in 2006, CalBio works closely with California dairy farm families, the dairy co-ops and cheese producers, CARB, the California Department of Food and Agriculture (CDFA), the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and the U.S. Environmental Protection Agency (EPA). It develops projects that reduce greenhouse gas (GHG) emissions, improve local air quality, protect water quality, and create local jobs. It produces renewable natural gas and generates electricity, both used as a vehicle fuel to power low emission trucks, buses, and cars. CalBio's 45+ operating California projects are preventing over 1 million tons of CO₂e from being emitted into the atmosphere each year. With a solid LCFS price and certainty of the program's stability and CDFA's support it has funding resources identified to double, and potentially triple, methane reductions over the next 5 to 7 years, from 1 million to 2 to 3 million metric tons per year.

The Low Carbon Fuel Standard (LCFS) program is the nation's leading and most successful example of a market-based carbon reduction regulation for the transportation sector. The program has been instrumental in supporting the growth of a broad portfolio of low carbon transportation fuels for use in California and their associated reductions in GHG emissions. RNG projects such as CalBio's additionally improve local air quality with diesel to RNG conversion, and CalBio creates clean energy job growth in the San Joaquin Valley.

Proposed Change to Phase Out Avoided Methane Crediting

As laid out in the workshop, CARB is considering phasing out avoided methane crediting in the LCFS program. Specifically, CARB communicated the following goals:

1. Continue to incentivize deployment of methane reduction strategies to support meeting California's near-term SB 1383 targets and 2030 climate target.

CalBio Comments to CARB's November 9, 2022 Public Workshop to Discuss Potential Changes to the
Low Carbon Fuel Standard

2. Support Scoping Plan policy direction for long-term deployment/use of biomethane for hydrogen and expanding use of biomethane in non-transportation sectors.
3. Provide appropriate transition time to ensure alternative options are available – we understand investment, need to avoid stranded assets, and continued project operation depends on continued market and policy support.

CalBio does not believe that eliminating avoided methane crediting will help to achieve any of these goals and would likely result in:

1. Greater difficulty in achieving California's near-term SB 1383 targets and 2030 climate target.
2. Less methane abatement and thus biomethane available to use in hydrogen, electric fuel and non-transportation sectors.
3. Discouraging investment in new projects and putting existing dairy digesters at risk of reverting to business-as-usual conditions.

Greater Difficulty in Achieving California's Climate Goals

The state of California has a long history of recognizing the urgency of climate change and putting the strategies in place to reduce greenhouse gas emissions, particularly the need to drastically reduce Short Lived Climate Pollutants¹ such as methane. In 2016, SB1383 was passed with the goal of requiring the state to “adopt policies and incentives to significantly increase the sustainable production and use of renewable gas.”² The recently updated CARB “Scoping Plan for Achieving Carbon Neutrality”³ adopted in December 2022 increased the state's ambitions to reduce greenhouse gases from 40% to 48% below 1990 levels by 2030.

CalBio believes CARB should recognize and build upon the effectiveness of its voluntary methane reduction strategies. To ensure success, it needs to continue avoided methane crediting for years to come over more than one crediting period. The reason the digester industry has had the success that it has in helping the state achieve progress towards meeting its 2030 target is because the right mix of policies and incentives were in place. CARB should seek to be consistent with the long-established state policy and strategies it has put in motion to reduce methane emissions. Reducing methane emissions from dairy manure digesters is one of the most cost effective and impactful strategies in helping the state achieve its greenhouse gas reduction goals. It also has important other benefits. In the “Analysis of Progress toward Achieving the 2030 Dairy and Livestock Sector Methane Emissions Target”⁴, CARB acknowledges that “New or expanded local, State, or federal incentives or funding mechanisms could potentially accelerate the capture and beneficial use of California biomethane, provide additional revenue necessary to ensure that California's dairy manure methane emissions are captured, and direct the biogas to difficult-to decarbonize sectors...These projects provide climate benefits through avoided methane production and environmental co-benefits including water quality improvements and conservation, reduction of synthetic fertilizer usage and improvement of nutrient management, as well as groundwater protection.”

The focus should not be to try to fix something that isn't broken. The LCFS program is working well. The recent study published by UC Davis, “Meeting the Call: How California is Pioneering a Pathway to

¹ https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf

² https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB1383

³ <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf>

⁴ <https://ww2.arb.ca.gov/sites/default/files/2022-03/final-dairy-livestock-SB1383-analysis.pdf>

CalBio Comments to CARB's November 9, 2022 Public Workshop to Discuss Potential Changes to the
Low Carbon Fuel Standard

Significant Dairy Sector Methane Reduction”⁵ highlights that California is “on track to reduce methane between 7.6 to 10.6 MMTCO₂e by 2030, from the dairy sector alone.” Eliminating avoided methane crediting would be counterproductive and discriminate against dairy biomethane when it achieves the benefits as described above, especially when compared to the production of other even more carbon-intensive fuels.

Additionally, eliminating avoided methane crediting will significantly delay much needed progress to achieve deeper methane reductions and potentially cause existing projects to revert to conventional manure management practices. In September 2022, CARB released the California Climate Investments 2022 Mid-Year Data Update which showed that investments in dairy digesters cut carbon emissions for \$9 per ton⁶. Given this, it is surprising that CARB would seek to eliminate the very incentives which have helped to achieve the progress made over the last several years. Why should CARB go backwards when it has proven to achieve more reductions per dollar invested in the shortest amount of time than virtually any other program administered by the state?

Disincentivizes Development of Biomethane for Use in Other Sectors

If CARB desires biomethane to be directed to hydrogen or other non-transportation sectors, the solution is not to eliminate avoided methane crediting from the LCFS. The solution is to develop new incentive programs to bring about the success that has been realized in the LCFS program into other sectors. Such a policy will broaden and increase the demand and development of dairy digester projects which would otherwise not occur, resulting in significant methane reductions and enabling the state to achieve its climate goals even faster. Eliminating the crediting mechanism would simply put a chill on investment opportunities for new methane capture projects, regardless of the final end-use.

CalBio has built and is committed to developing more projects to serve the growing electricity demand in the state to power electric vehicles using clean electric generation technology. The 2022 Scoping Plan sets a target to transition 100% of all vehicle classes sales to electric by 2045⁷. This timeframe corresponds well for CalBio, and other dairy developers, to migrate over time to an increased production of electricity and/or hydrogen as near zero natural gas trucks are replaced by even cleaner vehicles. Given its experience and location, CalBio will be ready to provide in-state reductions to California fleets as they convert from diesel-to-electric or from CNG-to-electric vehicles. However, significant new investments will be required, and this fleet conversion will be all the more likely and occur more quickly if the avoided methane credit remains to be shared along the value chain.

It is premature for CARB to push dairy biogas into other sectors when there is still a substantial need to decarbonize transportation and no other viable alternatives or markets exist that are economically viable.

Undermines Investments in New and Existing Projects

The dairy digester industry in California is currently facing significant challenges financing new projects, particularly in this environment of significantly depressed LCFS credit prices coupled with digesters

⁵ https://clear.ucdavis.edu/sites/g/files/dgvnsk7876/files/inline-files/Meeting-the-Call-California-Pathway-to-Methane-Reduction_0.pdf

⁶ https://ww2.arb.ca.gov/sites/default/files/auction-proceeds/cci_2022_mydu_cumulativeoutcomes.pdf

⁷ <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf>

CalBio Comments to CARB’s November 9, 2022 Public Workshop to Discuss Potential Changes to the
Low Carbon Fuel Standard

becoming more and more expensive to build and operate on smaller dairies across the state. With the potential loss of avoided methane crediting, investment in new projects could cease altogether.

In CARB’s recently adopted 2022 Scoping Plan⁸ it states:

*Assuming no adoption of additional manure management and enteric mitigations strategies beyond the projects that have committed funding, and a continued annual animal population decrease of 0.5 percent per year through 2030, further reductions of approximately 4.4 MMTCO₂e will be needed to achieve the 2030 methane emissions reduction target for the sector set by SB 1383. If the remaining reductions are met through a mix of dairy projects in which half are dairy digesters and half are alternative manure management projects, then it is estimated that **at least 420 additional projects will be necessary** (emphasis added).*

It is important to point out that the additional projects needed to achieve these reductions are far from guaranteed and the proposal by CARB to sunset avoid methane crediting puts their development in serious jeopardy. Calculations suggest dairy biogas without avoided methane crediting would have a carbon intensity of +50, similar to natural gas or landfill gas. Dairy digester projects are expensive and would be devastating to the project’s economics, causing the potential gas revenues go down and likely being cashflow negative to the project.

One of the “Strategies for Success” laid out in the Scoping Plan to achieve carbon neutrality was the recommendation to install state-of-the-art anaerobic digesters that maximize air and water quality protection, maximize biomethane capture, and direct biomethane to sectors that are hard to decarbonize or as a feedstock for energy⁹. CalBio believes CARB should act consistently with the Scoping Plan by recommitting to dairy methane capture as a key low carbon fuel and methane abatement strategy.

Ratchet Mechanism, CI Targets, and Other Considerations

Lastly, CalBio supports the concept of a “ratchet mechanism” or “CI-target accelerator” which would dynamically respond to current market conditions as California encourages the proliferation of low carbon fuels in the transportation sector. This mechanism should be coupled with a 2030 CI target of at least 35 percent in 2030 including a step-down CI target beginning in 2024 of 18%.

This combination of policy adjustments will set the long-term signal needed to enable further investment in low-carbon fuels and bring credit and deficit production back into balance. As outlined in the Scoping Plan and Governor Newsom’s letter recently submitted to CARB on July 22, 2022¹⁰, more action is needed to meet the state’s 2030 climate goal and 2045 statewide carbon neutrality target. CalBio urges CARB to continue stimulating large quantities of low carbon fuels in a cost-effective manner which is aligned with the state’s Scoping Plan and enabling hundreds of millions of tons of additional GHG reductions, public health, and community benefits to be delivered.

CalBio commends CARB for developing the LCFS as the nation’s leading and most successful example of a market-based carbon reduction regulation for the transportation sector and we thank CARB for considering these comments. We strongly encourage CARB to ensure the program continues to support

⁸ [id](#)

⁹ [id](#)

¹⁰ <https://www.gov.ca.gov/wp-content/uploads/2022/07/07.22.2022-Governors-Letter-to-CARB.pdf?emrc=1054d6>

CalBio Comments to CARB's November 9, 2022 Public Workshop to Discuss Potential Changes to the
Low Carbon Fuel Standard

further investment in fuels that bring about significant emission reductions, in-state job growth in clean energy sectors, and reduction in local air pollutants, of which no other fuel brings about more of these benefits than in-state dairy-biomethane.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew Craig". The signature is fluid and cursive, with the first name "Andrew" written in a larger, more prominent script than the last name "Craig".

Andrew Craig
Vice President, Greenhouse Gas Programs
California Bioenergy LLC