March 15, 2023

Ms. Cheryl Laskowski, Director
Transportation Fuels Branch
California Air Resources Board
Sacramento, CA 95914

Re: Comments on Proposed Changes to the Low Carbon Fuel Standard

The Bioenergy Association of California (BAC) appreciates the opportunity to comment on proposed changes to the Low Carbon Fuel Standard program presented at the February 22 staff workshop. BAC members strongly support the LCFS program and are working to help accomplish its goals of reducing carbon intensity and fossil fuel use on the road in California. We agree that changes are needed to the program, including a significant increase to the required carbon intensity reductions and a multi-year phase out of book and claim for undelivered biomethane. We object, however, to phasing out credit for avoided methane emissions until there is an alternative market that ensures California stays on track to meet the requirements of SB 1383 (SLCP reductions) and AB 1279 (carbon neutrality).

BAC represents over 100 public agencies, local governments, private companies, utilities, research institutions, non-profit organizations, and others working to promote sustainable bioenergy development in California. BAC focuses on projects that convert organic waste to energy for transportation fuels, electricity generation, pipeline biogas, hydrogen, combined heat and power, and more.

BAC strongly supports the state's decarbonization efforts and many BAC members are developing or operating projects that reduce Short-Lived Climate Pollutants, wildfire risks, landfill waste, and open burning of agricultural waste. BAC members are also producing renewable fuels and technologies that can be used in place of diesel, providing huge benefits for the climate and air quality.

BAC provides the comments below to ensure that changes to the LCFS do not impede progress in meeting the requirements of SB 1383, AB 1279, and other important policies, such as wildfire reduction and protection of air quality.

I. SLCP Reductions Are the Highest Climate Priority

Any changes to the LCFS should focus on accelerating SLCP reductions, not risking further delay in meeting the requirements of SB 1383. Climate science is very clear that reducing methane, black carbon, and other Short-Lived Climate Pollutants must be our highest priority since SLCP reductions are the most powerful lever to begin reversing climate change right away. The *Short-Lived Climate Pollutant Reduction Strategy* states that the "science unequivocally underscores the need to **immediately** reduce emissions of short-lived climate pollutants (SLCPs)."[1]

The *2022 Climate Change Scoping Plan* underscores this urgency, saying that SLCP emissions "have an outsized impact on climate change in the near term" and "that targeted efforts to reduce short-lived climate pollutant emissions can provide outsized climate and health benefits. . . **Action to reduce these powerful emissions sources today will provide immediate benefits – both to human health locally and to reduce warming globally**."[2]

In other words, SLCP reduction is both our most urgent climate priority and highly beneficial for public health. It also buys us time since CO2 reductions take decades to begin to cool the climate.

Despite the urgency of reducing SLCP emissions, the Scoping Plan acknowledges that California is not on track to meet its SLCP reduction targets and that more aggressive action must be taken to meet the requirements of SB 1383.[3]

Given the guidance in the Scoping Plan, proposed changes to the LCFS should focus on accelerating SLCP reductions and meeting the requirements of SB 1383. Increasing the carbon intensity requirement and phasing out undelivered biomethane would do so. Other proposed changes, however, such as phasing out credit for avoided methane emissions could severely hamper progress toward meeting the methane and waste diversion requirements of SB 1383.

II. CARB Should Increase Carbon Intensity Target to Align with SB 32

BAC strongly supports increasing the required carbon intensity reduction requirement for 2030, but urges the Air Board to increase it to 35 or 40 percent to better align the program with SB 32 and AB 1279. SB 32 requires a 40 percent reduction in statewide

[1] *Short-Lived Climate Pollutant Reduction Strategy*, adopted by the California Air Resources Board, March 2017, at page 1.
[2] *2022 Climate Change Scoping Plan* at page 43 and 223.
[3] Id at pages 223-224.

carbon emissions by 2030 and AB 1279 requires carbon neutrality by 2045. Since the transportation sector is the largest source of greenhouse gas emissions in California, it will be difficult to achieve these requirements without aligning the carbon reductions required by the LCFS program. It will also make the path from 2030 to 2045 much steeper and harder to achieve, as the staff presentation on February 22 made clear.[4] If the 2030 target is only 25 or 30 percent, fuel providers will have only 15 years to reduce carbon intensity another 60 or 65 percent. In other words, California will have to reduce carbon intensity at more than three times the pace between 2030 and 2045 than between now and 2030.

BAC urges the Air Board to require carbon intensity reductions of 35 or 40 percent in 2030. Setting the required carbon reduction at 40 percent is more than justified to be consistent with SB 32 and AB 1279. It also banks more carbon reductions sooner, which is critical to the climate. The earlier carbon reductions are achieved, the greater the climate benefit.

III. Phasing Out Undelivered Fuels is Necessary to Reduce Carbon Intensity and Fossil Fuel Use On the Road in California

BAC supports the staff proposal to align deliverability requirements for biomethane under the LCFS with the requirements for biomethane under the RPS and SB 1440 procurement program. Doing so will ensure that eligible biomethane is in fact displacing fossil fuels on the road in California and will help the state to meet other important goals, including the requirements of SB 1383 to reduce SLCP emissions and divert organic waste from landfills. SB 1383 also requires state agencies to adopt policies to and incentives to significantly increase the instate production and use of renewable gas, including biogas and biomethane, to reduce SLCP emissions in California.[5] The staff proposal to align deliverability requirements with the RPS and SB 1440 program will help to meet these requirements of SB 1383 and several other state laws that encourage or require instate biomethane production and use.[6]

At the same time, BAC supports the staff proposal to phase in this requirement over several years. As BAC noted in its comments on the November 9 staff presentation, phasing in the deliverability requirements would be consistent with the RPS, which provided a nine-year offramp for undelivered power. Allowing a phase-in period would also give projects east of the western gas grid time to find other markets and would give other states time to adopt their own LCFS type programs.

[4] Air Board LCFS Staff Presentation, February 22, 2023, slide 22.

[5] Health and Safety Code section 39730.8(c) and (d).

[6] For a list of laws that require or encourage increasing the instate production and use of biogas or biomethane, see BAC's December 13, 2022 comments on the LCFS at page 6.

BAC also urges CARB to clarify whether the phaseout of Book & Claim for biomethane will apply to hydrogen and electricity generated from biomethane. As the state increases both electricity and hydrogen generation, clarifying this issue will reduce uncertainty and accelerate development of carbon negative electricity and hydrogen.

IV. Phasing Out Avoided Methane Credits Before An Alternative Market is Available Will Impede California's Climate Progress

BAC strongly objects to the phaseout of avoided methane emissions from the LCFS as it could seriously impede progress toward meeting the requirements of SB 1383 and would move the LCFS program away from a lifecycle analysis-based program, which has been one of the biggest strengths of the program overall. At minimum, the Air Board should not phase out avoided methane emissions until there is a proven market to move biomethane to other end uses.

a. Not all avoided methane emissions are required by SB 1383.

BAC recognizes that the emissions reductions that are required by law should not be given credit under the LCFS or other market-based programs. Most of the avoided methane emissions from biomethane are not, however, required by law. In the dairy sector, SB 1383 does not require specific methane reductions and does not allow regulation of dairy methane before 2024. Even after 2024, SB 1383 only allows regulation of dairy methane if it will not cause leakage,[7] but cows are very easy to move to other states (unlike refineries and other heavy infrastructure) and so any regulation of dairy methane likely would cause significant leakage.

In the solid waste sector, SB 1383 requires that 75 percent of organic waste be diverted from landfills, but that means that 25 percent of organic landfill waste will continue to go to landfills even after SB 1383 is fully implements. In addition, SB 1383 does not require that diverted organic waste be used for biomethane production. CalRecycle's regulations to implement SB 1383 also allow production of compost as an approved pathway and compost production emits far more carbon than biomethane. According to a report prepared for the State of Oregon Department of Environment, projects that convert food waste to bioenergy provide 3.5 times greater carbon reductions than projects to convert food waste to compost.[8] Recent methane monitoring by NASA's Jet Propulsion Lab underscores this difference. NASA found that commercial compost operations emit nearly as much – and in some cases more – methane than landfills.[9]

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[7] Health and Safety Code 39730.6(b)(4).

[8] Morris, et al, *Evaluation of Climate, Energy, Soils Impacts of Selected Food Discards Management Systems,* prepared for the State of Oregon Department of Environmental Quality, October 2014, at pages ii-iii.

[9] http://methane.jpl.nasa.gov/. See also: https://www.jpl.nasa.gov/news/a-third-of-california-methane-traced-to-a-few-super-emitters.

For woody and other cellulosic waste diverted from landfills, if it is converted to biomethane with biochar as the coproduct, it can provide carbon negative emissions,[10] which biomass combustion and the production of wood chips do not provide.

In other words, SB 1383 allows several alternatives to landfilling that provide much smaller carbon reductions than biomethane provides, so biomethane should continue to receive credit for any reductions beyond what these other higher emitting compliance pathways allow.

b. The state should establish a procurement program similar to the LCFS for hard to electrify end uses before moving biomethane out of the LCFS

BAC agrees with the statement in the February 22 staff proposal that "Biomethane supplies need to grow rapidly and then be deployed to more end-uses."[11] Moving most biomethane out of the LCFS before other markets can replace it will not help to grow biomethane supplies more rapidly. On the contrary, it will signal to potential biomethane producers a great deal of market uncertainty and this will have a significant chilling effect on biomethane production, which will in turn slow the state's efforts to reduce SLCP emissions at the same time that California needs to accelerate progress in meeting the requirements of SB 1383.

Before moving biomethane out of the LCFS program, California needs to adopt a renewable gas procurement program - including biogas, biomethane, and renewable hydrogen – that is economy wide rather than specific to a single sector. This is what the RPS does in the electricity sector – it does not matter whether electricity is used for transportation, buildings, industry, residential, small business, or other customers. The RPS is an economy-wide, all-sector, electricity procurement program. The gas sector needs a similar program so that renewable gas can be used where it is most needed and fluctuating needs and state policies don't have a chilling effect on renewable gas production.

This is especially important for biomethane and biogas given the urgency of reducing SLCP emissions. Yet, the state has gone back and forth over how and where to use biomethane. Just five years ago, the California Energy Commission's *Integrated Energy Policy Report* found that the highest and best use of biomethane is in the transportation sector to replace diesel.[12] In the *2022 Climate Change Scoping Plan* and recent LCFS staff proposals, the goal is to move biomethane to hard to electrify end uses. That would not be a problem if the state had a single, economy-wide procurement program, but it does not. Instead, it has the LCFS, the BioMAT (for distributed-scale electricity generation) and the SB 1440 procurement program for residential and small business customers that are supposed to be electrified in the next few decades. Right now, project developers and local governments – which must

[10] Lawrence Livermore National Lab, *Getting to Neutral – Options for Negative Carbon Emissions in California,* January 2020.

[11] Staff presentation on the LCFS, February 22, 2023, slide 30.

[12] California Energy Commission, *2017 Integrated Energy Policy Report,* at pages 283-286.

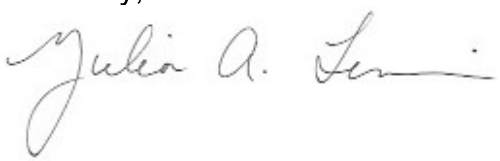
decide what to do with their SB 1383 waste – have to gamble on which of these programs to choose and which one will still work for them in 15 or 20 years. This causes enormous risk, uncertainty and delays, which are a major barrier to increasing biomethane production and use in California, as required by law and needed to meet our climate and air quality goals.

For all these reasons, BAC urges the Air Board to maintain biomethane in the LCFS program with full value for avoided methane emissions until there is a viable alternative market that provides long-term certainty for biomethane producers. That is the only way to meet the state's SLCP reduction requirements by 2030 and the requirement to achieve carbon neutrality by 2045.

BAC also urges the Air Board to reassess the value of avoided methane emissions from landfills based on actual monitoring data rather than decades old estimates. Recent monitoring by NASA's Jet Propulsion Lab makes clear that landfills emit far more methane than previously estimated.[13] Failing to include that avoided methane in the lifecycle analysis of fuels generated from diverted organic waste (including hydrogen, electricity, and biomethane) seriously underestimates the value of diverted organic waste projects and undermines their economic competitiveness.

Thank you for your consideration of these comments.

Sincerely,



Julia A. Levin
Executive Director

[13] http://methane.jpl.nasa.gov/. See also: https://www.jpl.nasa.gov/news/a-third-of-california-methane-traced-to-a-few-super-emitters.