

Submitted via electronic submittal: <https://ww2.arb.ca.gov/lispub/comm/bclist.php>

February 20, 2024

The Honorable Liane Randolph, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Comments on Proposed Low Carbon Fuel Standard Amendments and associated Initial Statement of Reasons

Dear Chair Randolph:

Brightmark LLC (“Brightmark”) appreciates the opportunity to submit comments on the Proposed Low Carbon Fuel Standard Amendments and associated Initial Statement of Reasons (ISOR) posted on December 19, 2023, and updated on January 2, 2024 (“Proposed LCFS Amendments”). We appreciate the California Air Resources Board (CARB) engaging with stakeholders regarding changes and updates to the Low Carbon Fuel Standard (LCFS) program.

California’s leadership in climate action through aggressive reduction targets and corresponding programs, like the LCFS, accomplishes actual pollution reduction and public health benefit outcomes by establishing market certainty to drive private investment. The state’s leadership and programs provide key solutions to the global climate challenge, however, more needs to be done.

The Proposed LCFS Amendments are **insufficient** to maintain and increase investment in the LCFS program and **risk stranding existing assets** that have relied on the program.

The credit market has shown, through price dips, not price increases, following the release of the Proposed LCFS Amendments in December 2023 that the proposed changes are insufficient. Current LCFS prices as of February 11, 2024, reached the lowest point in over a year, indicating that CARB has not gone far enough in the Proposed LCFS Amendments regarding Carbon Intensity (CI) targets, CI step-down, and the Auto Acceleration Mechanism (AAM). This trend in credit market decreases following CARB proposed rule announcements includes after the February 2023 workshop and after posting of the Standardized Regulatory Impact Assessment (SRIA) in September 2023. If the current prices were to continue, there is a real threat of stranded assets for current investments that limit, if not eliminate, future investment.

CARB needs to utilize the three main levers: (1) CI targets, (2) CI step-down, and (3) AAM to stabilize credit prices at a level that will sustain current investments and lead to future investments. Increased program ambition is critical for continued methane reduction and growth in all low-carbon fuels.

Based on the Proposed LCFS Amendments, Brightmark recommends the following policy changes:

- A 2030 CI target of 40%,
- A CI step-down of 10% from the current regulation of 12.5% to 22.5% in 2024 to address current oversupply issues and increases in the bank that will occur in 2024.
 - If not administratively possible, then a CI step-down of 10% from the current proposal of 13.75% to 23.75% in 2025.
 - Increases of credits in the bank in 2024, because of delayed rule implementation, are causing downward price pressure needing immediate attention.
- An AAM, using similar mechanics laid out by AJW at the May 23, 2023 Workshop (May Workshop), to help avoid future oversupply situations, with the following changes:
 - Allow for a cumulative Credit/Deficit (C/D) bank trigger, instead of waiting for annual C/D numbers, and adjust the C/D ratio from 1.0 to 0.8
 - Allow for the AAM to be triggered as early as 2025
- A full credit true-up process that includes both
 - a true up while generating credits using the temporary pathway and
 - an annual true-up during the annual fuel pathway report process.

Brightmark Overview

Brightmark was founded in 2016 with the mission of solving some of the greatest environmental challenges facing the United States. One of these solutions is capturing methane emissions from organic waste and producing biogas and digestate through the natural process of anaerobic digestion. Agricultural activities contribute approximately 30% to total U.S. greenhouse gas (GHG) emissions, a significant portion attributable to methane emissions from animal waste.¹

Brightmark operates over 30 net-negative carbon intensity projects on dairy farms across the U.S., including in California. Through these projects, Brightmark derives RNG from biogas that has been captured from organic waste streams and is cleaned and conditioned to achieve the quality standards necessary to blend with or substitute for geologic natural gas. We work with dairy farmers to harness the energy potential of their dairy manure, provide them with solutions to meet their greenhouse gas reduction goals, and enhance farm profitability. We are committed to reimagining waste and building projects that benefit farms, their dairy, their communities, and the planet.

These facilities provide a win/win scenario for farmers and local communities; they help address methane emissions from organic waste produced locally and turn that waste into renewable energy and fertilizers. To date, our projects have offset over 850,000 metric tons of CO₂eq.

¹ U.S. Department of Agriculture Economic Research Service, citing the U.S. Environmental Protection Agency *Inventories of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021*, April 2023 (EPA 2023).

The LCFS program, and the certainty it provides to the market, is a key factor in the long-term success of projects like these in addressing environmental challenges. The CARB LCFS workshops throughout 2022 and 2023 highlighted the success of the LCFS, showing that the program is over-performing and helping California meet its reduction goals sooner than originally targeted.

California Leadership in Climate Solutions Should Lead to More Aggressive Targets

California has a long history of supporting aggressive actions to address environmental challenges, like climate change. Governor Newsom has called for an even more aggressive approach to achieve climate neutrality. As CARB has stated, “[s]ignificant reductions in transportation emissions are needed to achieve state’s air quality and climate goals.”

During the Oil Price Information Service LCFS & Carbon Markets Workshop, ICF presented a scenario analysis that included the current bank of credits with a step-down of 7.25% and found that a CI reduction target of 40% was achievable in 2030 without the credit bank going negative.

The credit bank is projected to reach 28-30 million credits through the end of 2024 reporting, with the bank projected to increase in size by up to 6-8 million credits in 2024 alone. The current proposed 5% CI step-down will still lead to an increase in the bank in 2025, but a step-down of 10% will offset most, if not all, of the bank increase in 2024. This will stabilize the size of the bank to maintain credit prices at levels that will sustain and increase investment in the LCFS.

We believe the reduction target should be 40% by 2030, combined with a step-down of 10% in 2024. Because of the delay in LCFS rule implementation, the credit bank increases through 2024 do not seem to be addressed in the CI targets and step-down proposals. If not administratively possible in 2024, then a 10% step-down in 2025 should be implemented. As with California’s Renewable Portfolio Standard program, the industry rises to the occasion with aggressive targets.

According to the ISOR, the LCFS provides environmental and public health benefits. Appendix A shows that projected positive environmental and health benefits, on a 2021\$/gallon basis in 2026 and 2030, are comparable to significantly higher credit prices than what we see now. And historically, the potential LCFS impact on gas prices is insignificantly less than other exogenous impacts on crude prices (the main driver of gas prices) and California refinery disruptions and issues, see Appendix B.

In addition to the environmental and public health benefits, an increasingly stringent target provides market and regulatory certainty. Participants in the LCFS program have already demonstrated the ability to invest in long-term assets that drive CI reduction targets that exceeded expectations. Brightmark supports higher targets to increase credit demand and maintain a diverse fuel and credit generation mix.

An Auto Accelerator Mechanism Provides an Appropriate Guardrail Against Low Prices and Increases Investor Certainty

In addition to a near-term 2024 or 2025 adjustment to the range of 23-24% and tightening the stringency to achieve a minimum 40% reduction by 2030, CARB should adopt a target accelerator mechanism to reduce the likelihood of future oversupply scenarios. An accelerator mechanism is not a substitute for appropriate changes in the targets, but it does offer an attractive additional tool to CARB if they wish to minimize future minor target-adjustment rulemakings. The key term here is “future oversupply scenarios.” The LCFS is already oversupplied, with that oversupply projected to increase by 30-40+% higher from now through 2024. It is important that a sufficient step-down is implemented where the AAM would not be triggered in the first year after the new amendments (2026).

The details of the accelerator mechanism mechanics proposed by AJW at the May Workshop are well thought out and administratively feasible. A high credit-to-deficit (C/D) ratio and a high bank-to-deficit (B/D) ratio are important signals indicating an imbalance in credit supply and demand fundamentals. We encourage CARB to allow for a cumulative Credit/Deficit (C/D) bank trigger instead of waiting for annual C/D numbers. Also, as proposed, the C/D ratio should be adjusted from 1.0 to 0.8. If the B/D ratio can be triggered, then the bank is too large. However, if a C/D ratio is between 0.8-1, then there will not be a significant enough decrease in the bank to impact prices and lead to future investment.

A dual trigger, consisting of both a C/D ratio and a B/D ratio, as proposed by AJW, will likely strike an appropriate balance and only activate when there is a high likelihood of systemic long-run oversupply. The proposed trigger values should be reassessed appropriately based on historical data from the CA LCFS system. Once the trigger conditions are met, responding with a jump ahead in compliance targets is a straightforward and transparent way to increase stringency. Aligning the timing of correction with the existing process to address significant undersupply (through the Credit Clearance Market) is appropriate and straightforward.

- **Policy recommendation:** To address current and anticipated credit oversupply that threatens the viability of RNG projects, a more aggressive carbon intensity target with an increase to at least 40%
- **Policy recommendation:** A CI step-down of 10% from the current regulation of 13.75% to 23.75% in 2025 to address current oversupply issues and increases in the bank that will occur in 2024. This level of ambition should also be implemented in Q3 or Q4 of 2024, if administratively possible.
- **Policy recommendation:** in the AAM,
 - allow for a cumulative Credit/Deficit (C/D) bank trigger, instead of waiting for annual C/D numbers, and adjust the C/D ratio from 1.0 to 0.8, and
 - allow for the AAM to be triggered as early as 2025.

Accurate Credit Accounting

A full credit true-up remains necessary to properly recognize the true environmental performance of all pathways. Brightmark appreciates the inclusion of a credit true-up process in the rule language and wants to clarify that it is a full credit true-up both during temporary pathway and annual true up process, consistent with the recommendations submitted by the RNG Coalition in September 2023.

This recommendation would incentivize RNG producers to continuously make improvements to, and find efficiencies in, their existing production processes to improve their carbon intensity score, thus resulting in the continued reduction of GHG, even from operational facilities (which, may yield the greatest value for the LCFS program). As to underperformance, which can be impacted by a variety of external factors separate and apart from the facility itself, a true-up mechanism will allow producers to make the required adjustments and disclosures without the need for CARB staff to generate and process Notice of Violations (NOVs).

- **Policy recommendation:** A full credit true-up process that includes both a true up while generating credits using the temporary pathway and an annual true up during the annual fuel pathway report process.

Focusing on Solving the Problem

The goal of the LCFS is to reduce the carbon intensity of transportation fuels through greenhouse gas emission reductions. The LCFS is currently the only market with the economic incentive to develop carbon negative projects, including dairy biomethane. Dairy digester projects, due to the low energy density feedstock and higher required residence time, among other reasons, result in higher costs per MMBtu produced.

The success and market certainty of the LCFS program should be based on increasing the demand for credits, not limiting fuels and credit generation. Increasing demand for credits will result in greater overall emission reductions and a more diverse and stable credit pool. Avoided methane crediting should continue in LCFS until a realistic and proven replacement policy is implemented. Significant investments have been made in existing and future projects based on the current rules and trust in the LCFS program that emission reductions from these projects would be valued for delivering positive outcomes.

Brightmark supports the continued alignment of deliverability requirements for RNG with that of the federal Renewable Fuel Standard program. Biomethane projects that theoretically have the ability to deliver to California should be included, as the program currently operates. Current rules require that a project's CI score measure the additional carbon impact of traveling further in the CI calculation. Gas pipelines, contrary to the transmission power grids, can deliver biomethane from the East Coast to the West Coast.

While Brightmark prefers the current rule mechanisms for avoided methane and book and claim deliverability continue as is, we can support the proposed rule language applying to projects that break ground after December 31, 2029, to phase out pathways for crediting biomethane used in CNG vehicles after December 31, 2040, and pathways for biomethane used to produce renewable hydrogen would be eligible to receive credits until December 31, 2045.

Market and Regulatory Certainty

The success of the LCFS to date shows the market's ability to deliver together in partnership with CARB. The LCFS, at its core, is a market-based, fuel-agnostic regulation that does not pick winners and allows for all fuels to compete.

Market and regulatory certainty are based on trust in California as a reliable place to sell low-carbon fuel and credits to meet and exceed climate goals. However, to continue to achieve aggressive targets, CARB must promote a long-term, stable environment to encourage investors and teams to create new and maintain existing CI-reducing projects. This requires that credit prices maintain a level for capital recovery of previous and future investments.

An unfounded concern is that LCFS credit prices will adversely impact fuel prices. Appendix A illustrates that projected environmental and public health benefits, on a 2021\$/gallon basis in 2026 and 2030, are comparable to significantly higher credit prices than what we see now. Appendix B shows that historically the potential LCFS impact on gas prices is insignificantly less than other exogenous impacts on crude prices (the main driver of gas prices) and California refinery disruptions and issues.

The ultimate goal of California and the market participants, like Brightmark, is decarbonization and eventual carbon neutrality of not only transportation, but all sectors of the economy. To reach this goal, California needs negative CI fuels for transportation and negative CI biogas for other uses (power, thermal, etc.). In-state and out-of-state RNG production are connected, the same developers that develop in-state projects develop out-of-state projects. Current RNG production's success will lead to developing additional RNG projects necessary to decarbonize the non-transportation sectors to achieve long-term goals.

Negative CI fuels require significant economic incentives and market certainty, which has eroded with current LCFS prices. Long-term depression of credit prices will lead to stranded assets and lack of private investment in decarbonizing California's economy. CARB should send a strong signal by dramatically increasing the LCFS reduction targets and help return certainty to the market.



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We appreciate the opportunity to provide comments, please do not hesitate to reach out with any questions.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Bob Powell".

Bob Powell,
Founder & CEO

Appendix A – Quantification of Environmental Benefits

The following values are taken directly from the ISOR for total emission reductions and annual monetized environmental benefits.

all in 2021\$	2026	2030
CO2 Emission Reduced (MMT)	13	20
5% Discount Rate	\$254	\$438
3% Discount Rate	\$852	\$1,368
2.50% Discount Rate	\$1,250	\$1,997
CH4 Emissions Reduced (MT)	314,024	292,597
5% Discount Rate	\$288	\$304
3% Discount Rate	\$601	\$640
2.50% Discount Rate	\$816	\$800
Health Benefits Total Benefits	\$141	\$129

The table below shows the combined environmental and health benefits per metric tonne (MT) of CO2e reduced.

Per MT CO2e Reduced in 2021\$	2026	2030
5% Discount Rate	\$32.8	\$31.9
3% Discount Rate	\$76.4	\$78.2
2.50% Discount Rate	\$105.8	\$107.1

With the proposed CI targets of 21% and 30% by 2026 and 2030, that results in 0.0024 and 0.0034 deficits generated per gallon of gasoline. The table below compares monetized environmental and health impact per gallon (in 2021\$) with the LCFS credit price impact per gallon. The range of credit prices shown are \$50, \$100, and \$150 in nominal dollars that are converted to 2021\$ with a range of 2.5%, 3%, and 5% discount rates.

\$/gallon Positive Environmental and Health Impact – 2021\$		
	2026	2030
5% Discount Rate	\$0.08	\$0.11
3% Discount Rate	\$0.18	\$0.27
2.50% Discount Rate	\$0.26	\$0.37

	\$/gallon Credit Impact (2021\$)					
	2026			2030		
Nominal \$ Credit prices	2.50%	3%	5%	2.50%	3%	5%
\$50	\$0.11	\$0.10	\$0.09	\$0.14	\$0.13	\$0.11
\$100	\$0.21	\$0.21	\$0.19	\$0.28	\$0.26	\$0.22
\$150	\$0.32	\$0.31	\$0.28	\$0.41	\$0.40	\$0.33

Appendix B – Historic Prices in Nominal Prices

