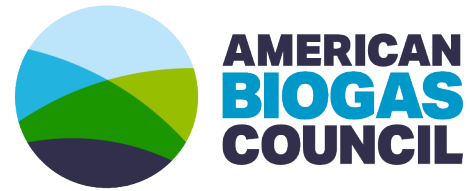


February 16, 2024

Chair Liane Randolph and Members of the Board
California Air Resources Board
1001 I St.
Sacramento, CA 95814



RE: American Biogas Council Comments on the Proposed Amendments to the Low Carbon Fuel Standard

Dear Chair Randolph and Members of the Board,

The American Biogas Council (ABC) appreciates the opportunity to comment on the proposed amendments to the Low Carbon Fuel Standard (LCFS). The ABC is the voice of the U.S. biogas industry dedicated to maximizing carbon reduction and economic growth using biogas systems. We represent more than 400 companies in all parts of the biogas supply chain that are leading the way to a better future by maximizing all the positive environmental and economic impacts biogas systems offer when they are used to recycle organic material into renewable energy and soil products.

Biogas systems protect our air, water, and soil by recycling organic material, like food waste and manure, into renewable energy and soil products. Biogas systems are, at their heart, a biological means to capture methane that would otherwise be emitted into the atmosphere for use as a renewable fuel. This process specifically decreases baseline methane emissions by converting methane back into carbon dioxide. All of this is an effort to protect our air, water, and soil – crucial parts of the solution to the challenges the California Air Resources Board (CARB) seeks to address. The scientifically-based design of the LCFS recognizes the benefits of projects that collect biomethane that would otherwise be emitted to the atmosphere making it available for use in transportation. As a result, millions of gallons of petroleum-based diesel fuel have been replaced with clean biomethane over the past several years delivering substantial reductions in greenhouse gas (GHG) emissions as well as other co-benefits (e.g., reductions in emissions of particulate matter). Furthermore, in August 2023, CARB announced that in Q1 2023 clean fuels replaced more than 50% of the diesel used in the state for transportation purposes, equating to nearly two billion gallons of avoided fossil diesel use in 2022.¹ This further underscores the success of the program and continued need for the LCFS to deliver GHG reductions from the transportation sector.

Over the past year and a half, CARB staff have held numerous public workshops to gather feedback on potential changes to the program, where ABC participated, and we are pleased to see that the rulemaking is nearing completion. The ABC would like to underscore the importance of concluding this rulemaking as soon as possible. Any further delay to the rulemaking diminishes the necessary signal the market needs to facilitate and encourage continued investments in clean fuels. Without a strong policy signal, the state risks missing opportunities to further reduce GHG emissions from transportation fuels. Thus, the ABC urges CARB staff and the Board to finalize this rulemaking no later than the end of Q2 2024.

Strengthening Carbon Intensity (CI) Targets

The ABC applauds CARB and is encouraged to see that the proposed amendments aim to set more ambitious carbon intensity (CI) targets. A strong CI reduction target is a critical component for driving down GHG emissions in the transportation sector, reducing reliance on petroleum fuels, and transitioning to electric vehicles where feasible. However, we believe that there is both room and need to go further. Using the numbers from CARB's Quarterly Summary Report and averaging the rate of credit growth over the past five available quarters, it shows that the current scale-up in the production of clean fuels will continue to generate credits with the cumulative bank likely eclipsing 25 million by the end of 2024.² The proposed increase in stringency falls short of what the market can deliver, and as a result, is missing an opportunity to deliver

¹ California Air Resources Board, *For the first time 50% of California Diesel Fuel is replaced by clean fuels*. August 23, 2023. <https://ww2.arb.ca.gov/news/first-time-50-california-diesel-fuel-replaced-clean-fuels>

² California Air Resources Board, *LCFS Data Dashboard Figure 3 – Quarterly Summary Report*. <https://ww2.arb.ca.gov/resources/documents/lcfs-data-dashboard>

millions of additional tons of reductions in GHG emissions called for in statute and further underscored in the update to the state's Scoping Plan as approved by the Board in December 2022.

The ABC believes that there are two key adjustments that CARB can make to the stringency as part of the 15-day change process that do not require new economic or environmental analysis as they fall within the scope of the work CARB has already included in the Initial Statement of Reasons (ISOR). Specifically, by increasing the step-down as well as pulling forward the effective date for triggering the Auto Acceleration Mechanism (AAM) CARB can “recapture” reductions in GHG emissions that will otherwise be lost with the current proposal. Doing so will also send a clear, supportive market signal to continue investments in clean fuels that would otherwise be constrained by the current proposal. The description below provides additional detail on these two recommendations.

While we believe that the proposed 5% step-down in stringency is good start at course-correcting the market, it simply does not go far enough considering the size of the cumulative credit bank, which is anticipated to increase its rate of growth as new clean fuel projects that have been or are being constructed bring more clean fuels to market. Within the boundaries of staff's existing environmental and economic analysis, the step-down must be increased by at least 7%, which, for perspective, translates into a 2030 target of at least 32% reduction in the CI relative to the 2010 baseline. While a 7% step-down (20.75% CI target) will still leave many credits in the cumulative credit bank, this single adjustment will translate into millions of additional tons of GHG emission reductions that would've otherwise gone unaddressed. ABC would like to emphasize that a 7% step down should be the minimum considered, and that it is possible, based on recent modeling by ICF, for CARB to be more aggressive with the step-down, noting that a step-down of 11.25% (25% CI target) is feasible, and would sufficiently address the excess credits in the cumulative credit bank.³

As designed, the first year that the AAM could impact program stringency is 2028---four years from now! The concept and need for the AAM is to respond to clear overperformance of the program and to send an unambiguous market signal to investors that the program is nimble and will respond to opportunities to deliver additional GHG reductions rather than “add to” an excessively large credit bank that is at odds with the objectives of the program. Waiting four years is too long, and the ABC recommends pulling the date for triggering the AAM forward. The AAM should be based on 2025 data with the trigger assessment occurring in May 2026, and the AAM being applied in 2027 providing the applicable conditions are met, thus increasing the program stringency for 2027. Relying on 2025 as the first eligible year for triggering the AAM is appropriate as one of the main objectives of the step-down is to bring the program into balance. Therefore, assessing the impact of the step-down on the market based on 2025 data, including the cumulative bank and the rate of credit to deficit generation, is aligned with the principles of the program. With this approach, the AAM could theoretically increase the stringency of the program in 2027 and 2029 (i.e., triggered twice prior to 2030 providing the conditions for the triggering the AAM are satisfied), better ensuring that potential emission reductions are not left on the table in the event the program continues to overperform following the Board's adoption of the amendments. Furthermore, it is important to note that the proposed 3:1 ratio (i.e., cumulative bank/average quarterly deficits) that would trigger the AAM is likely inadequate. For example, in 2022, a year where there is general stakeholder consensus that the LCFS was overperforming, the AAM would not have triggered using CARB's current proposal. Updated ICF modeling shows that changing the cumulative credit bank to average quarterly deficit ratio threshold from 3 to 2.5 or lower would position the AAM to be more responsive to overperformance of the program, thus delivering additional reductions in GHG emissions.⁴

Avoided Emission Crediting

The proposed amendments seek to phase out avoided emission pathways for projects that break ground after December 31, 2029, for biomethane used as a transportation fuel through 2040 and for biomethane used to produce hydrogen through 2045. While we understand that CARB's intention here is to begin to transition biomethane away from the transportation sector, the underlying rationale is being construed by some as science-driven rather than a policy decision concerning the phase out of combustion in transportation. ABC does not support the phaseout of avoided emission credits.

³ ICF, *Analyzing Future Low Carbon Fuel Targets in California*. February 2024.
<https://static1.squarespace.com/static/5b57ab49f407b4a7ffa44ffa/t/65cd3c74d1a72f445cdc7a7e/1707949173143/ICFReport2024.pdf>

⁴ ICF, *Analyzing Future Low Carbon Fuel Targets in California*. February 2024.
<https://static1.squarespace.com/static/5b57ab49f407b4a7ffa44ffa/t/65cd3c74d1a72f445cdc7a7e/1707949173143/ICFReport2024.pdf>

Avoided methane emissions are a critical part of science-based, life cycle assessments, and their inclusion in carbon intensity scores is consistent with internationally recognized standards of carbon accounting. The science is robust and recognizes that the baseline includes methane emissions that would otherwise be released into the atmosphere. As stated in our previous comment letters to CARB, recognizing avoided methane emissions and its role as a short-lived climate pollutant, while incentivizing its removal from the atmosphere, has proven highly successful in supporting the reduction of millions of metric tons of carbon dioxide equivalents. We strongly encourage CARB to continue its longstanding commitment to a science-driven framework that utilizes proven science including Argonne National Laboratory's GREET model. In the event CARB maintains its plans to phase out eligibility for avoided methane in vehicle fuels, we encourage CARB to be clear that it is a policy decision associated with CARB's efforts to transition biomethane into non-vehicle sectors (e.g., residential, commercial, and industrial uses). CARB should be explicit that the policy decision to discontinue recognition and eligibility of avoided methane emissions in vehicle pathways should not be interpreted as a departure from the established rigorous science of accounting for the benefits of avoiding methane emissions which continues to be appropriate for non-vehicle sectors. ABC does, however, recognize that avoided emission credits for biogas to electricity projects remain, and applaud CARB for recognizing the value of these projects by proposing to retain this aspect of the program.

Book-and-Claim and Deliverability Requirements

Book-and-Claim has allowed the LCFS to evolve by supporting investments in clean fuels that have helped the program remain one of the most influential and successful transportation decarbonization policies in the country. To date, CARB's approach to indirect accounting in the program has been pivotal in its success, including its principles of driving GHG emissions down, facilitating investments and production of clean fuels, and in supporting increased clean fuel options for consumers.

While CARB's proposal clearly outlines recommendations related to book-and-claim for biomethane as directed to end use fuel consumption and hydrogen production, it does not adequately address biogas and biomethane as directed to electricity production. There are three key areas that CARB should address to ensure that biogas and biomethane can support electricity production in support of transportation decarbonization. The first is to allow biogas to electricity projects to utilize book-and-claim anywhere in the Western Electricity Coordinating Council (WECC), as is already the case in Oregon under their Clean Fuels Program. Currently, the LCFS requires electricity to be physically delivered to California. This would eventually result in regulatory consistency for projects with the same feedstock (i.e., biomethane) once the deliverability requirements for that fuel are realized. Second, biogas-to-electricity projects where electricity generation and biogas production are not co-located should be eligible to participate in the LCFS. This is in-line with the California Renewable Portfolio Standard's (RPS) treatment of "directed biogas" and allows greater project penetration by supporting optimal siting of both the biomethane source and the electricity generator rather than forcing co-location. Third, notwithstanding the preceding constraints, there are clear guidelines and requirements for how electricity, as a LCFS fuel, can utilize book-and-claim to move electricity from point of generation to end use. There is not, however, clear information on how biogas or biomethane can utilize book-and-claim to move RNG to electricity generation. ABC recommends that CARB provide clarification that biomethane may utilize book-and-claim in this context. Further, we recommend that book-and-claim for biomethane to electricity remain unconstrained by timeline restrictions proposed for biomethane to end use and biomethane to hydrogen production. We believe this is appropriate to support zero-emission vehicle aspirations beyond 2030.

The ABC is also requesting CARB provide further guidance on the proposed deliverability requirements. The proposed amendments aim to adopt the California RPS requirement of ensuring biomethane injected into a common carrier pipeline physically flows towards California 50% of the time. This referenced RPS framework does not, however, provide clarity on how those biomethane molecules can be traced to California, how a 50% average flow toward California may be modeled, nor expected geographical indications of regions anticipated to remain eligible for book-and-claim accounting. Moreover, limiting book-and-claim to physical deliverability requirements risks the LCFS becoming a less effective decarbonization program and undermines California's interest in rapidly ramping up the production and use of renewable hydrogen—a foundational principle in establishing ARCHES, which is at odds with CARB's proposal, to implement deliverability requirements for hydrogen projects utilizing biomethane.

It remains to be seen if and how the proposed deliverability requirements can be harmonized with the California Public Utilities Commission's (CPUC) SB 1440 program, as suggested. It has been clear over the past year that CARB was exploring potential deliverability requirements. However, throughout that process an actionable plan outlining the strategy and evidence necessary for imposing delivery requirements never emerged. Rather, stakeholders continued to raise concerns about the lack of a feasible plan which continues with the ambiguity of the proposed amendments. Therefore, the

ABC recommends that the deliverability requirement language be removed from the proposal to allow for further stakeholder engagement in support of a clear and actionable plan for consideration in a subsequent rulemaking.

True-up Provisions

The proposal includes true-up provisions where verified operational CI's are drawn on to potentially adjust the credits based on certified CI's. The proposal indicates that a shortfall (i.e., a verified operational CI that is higher than the certified CI upon which project credits were generated) is subject to a "penalty" that is 4 times the spread for the applicable volume of fuel. The rationale for a 4X spread is unclear as a smaller spread (e.g., 2X) serves as a significant disincentive to producers for being overconfident in their analysis. Further, the language indicates that in the event the operationally verified CI is lower than the certified CI (i.e., it failed to generate as many credits as it could have) the Executive Order (EO) "may" make the appropriate adjustment (true-up) by awarding additional credits to the applicable fuel reporting entity. The word "may" should be deleted. If the operationally verified CI, including an affirmative verification statement, is lower than the certified CI that was the basis for credit generation, the EO "must" award the supplemental credits supported by the underlying documentation.

The concept of adjustment to credits based on operationally verified CI's is sound. However, limiting the proposal to certified CI's is a significant oversight. The proposal must be carried over and applied to temporary and provisional CI's as fuel providers may rely on these CI's for months, or even years, as a more refined pathway is evaluated and subsequently approved by CARB.

Temporary CI's have been an important option under the program, but applicants can be reluctant to use them given the heavy credit discounting relative to facility-specific provisional CI's. Correcting for any under (or over) crediting while a temporary CI is used will help streamline and simplify the program as well as send a stronger signal to the market that investments in clean low-CI fuels will be rewarded. Further, including temporary CI's as part of the true-up process will reduce the pressure on CARB from developers to process LCFS applications quickly which has been an ongoing and growing challenge under the program. The concept of adjusting the awarding of credits based on operationally verified CI's is a key principle that supports innovation and must be reflected from project initiation, where a temporary CI is used, throughout the project's lifetime to properly account for and reward the associated reductions in greenhouse gas emissions. Credits should be awarded based on real-world operational experience and therefore adjusted accordingly when the temporary CI which is applied understates the benefits.

New Markets

As the technology in the transportation sector continues to evolve and advance towards lower carbon alternatives, ABC members are following suit and are ready to serve these new markets, such as alternative jet fuel (AJF), low-CI hydrogen, as well as exploring opportunities where biomethane can be utilized outside of transportation. As these markets continue to grow, the ABC asks CARB to remain mindful of the success of the historical framework of the program and to continue to apply it to newer pathways and technologies, including the use of avoided emissions and book-and-claim.

If CARB's goal is to transition biomethane out of the vehicle sector, the ABC strongly encourages CARB to ensure there continues to be a market for low-CI biomethane as it is an important decarbonization tool, especially in sectors that are hard to decarbonize. For example, the CPUC's SB 1440 program creates a biomethane procurement mandate for the state's largest utilities, however, the program excludes dairy biomethane due to the credit it currently receives in the LCFS.⁵ With CARB's intention of phasing out all biomethane crediting for transportation fuel by the end of 2040, it makes sense for the CPUC to integrate dairy biomethane into the SB 1440 program which will allow for more market choice and volumes of renewable fuel for utilities to procure. The industrial sector is also another area where biomethane can help significantly reduce emissions, particularly at facilities that are large natural gas users and where electrification is not currently feasible. However, there isn't one, all-encompassing policy that drives biomethane, and other low-CI clean fuels, towards that use case. Thus, the ABC recommends that CARB, starting with the 2024 amendments to the LCFS, send a clear policy signal that biomethane is a necessary and effective decarbonization strategy in these other sectors (e.g., residential, commercial, industrial) that are fundamental to the state meeting its ambitious GHG reduction targets.

⁵ California Public Utilities Commission, *Decision Implementing Senate Bill 1440 Biomethane Procurement Program: R. 13-02-008*, page 4. <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M453/K954/453954308.PDF>

The ABC would also like to extend its support for CARB's proposal of eliminating the exemption for intrastate fossil jet fuel from the program starting in 2028. This will allow for continued and increased momentum for AJF production and use and will help drive down GHG emissions in the aviation sector. Furthermore, the 2022 update to the Scoping Plan calls for 80% of aviation fuel demand in 2045 to be met by AJF.⁶ The growth of AJF use is a new market opportunity for biomethane as it can be an important input for the fuel, helping it achieve lower CI's. The magnitude of ambition the state has called for will require the industry to significantly scale-up production and use of AJF, and for that reason, the ABC requests that CARB begin to think about the framework and guardrails needed to achieve the 80% goal set forth in the Scoping Plan and leverage all of the tools available to the vehicle market, such as book-and-claim and avoided emissions accounting, to make this goal a reality.

Conclusion

The LCFS continues to be a flagship policy that drives investments in low carbon fuels and is delivering millions of tons of reductions in greenhouse gases to meet California's statutory commitments. The program is also protecting communities throughout the state by transitioning from petroleum to much cleaner fuels, including biomethane. The LCFS is the hallmark of effective environmental policy in that it: 1) sets clear, science-based targets; 2) establishes clear regulations for program implementation; and 3) provides the market with the flexibility to innovate. There is a clear reason that other states and nations model their efforts on California's LCFS. The ABC and its hundreds of members are proud to help build on this success story and are committed to CARB's efforts to continue to drive down emissions from transportation fuels.

Thank you for the opportunity to comment on the proposed amendments, and we look forward to engaging with CARB staff on these topics.

Sincerely,



Patrick Serfass
Executive Director

About the American Biogas Council

The American Biogas Council is the voice of the US biogas industry dedicated to maximizing carbon reduction and economic growth using biogas systems. We represent more than 400 companies in all parts of the biogas supply chain who are leading the way to a better future by maximizing all the positive environmental and economic impacts biogas systems offer when they recycle organic material into renewable energy and soil products. Learn more online at www.AmericanBiogasCouncil.org, Twitter [@amblogascouncil](https://twitter.com/amblogascouncil), and [LinkedIn](https://www.linkedin.com/company/amblogascouncil).

⁶ California Air Resources Board, *2022 Scoping Plan Update*, page 73. <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>