October 16, 2024

Rajinder Sahota
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: AMP AMERICAS COMMENTS ON THE SECOND PROPOSED 15-DAY CHANGES TO THE PROPOSED AMENDMENTS TO THE LOW CARBON FUEL STANDARD REGULATION

Dear Ms. Sahota:

Thank you for the opportunity to comment on the Second Proposed 15-Day Changes to the Proposed Amendments to the Low Carbon Fuel Standard ("LCFS"). Amp Americas ("Amp") appreciates the California Air Resource Board's ("CARB's") leadership on addressing climate change, and especially appreciates CARB staff's thorough and ongoing stakeholder engagement throughout the LCFS amendment process.

We strongly support the LCFS program, which has been critical in advancing a wide array of climate and environmental priorities for California, including reducing methane from dairies, as CARB has documented in various workshops throughout the amendment process and most recently with the August 22, 2024, Dairy Sector Workshop. As we have shared in previous comment letters, **we are concerned that the proposed amendments move away from the technology-neutral, science- and performance-based framework that has made the LCFS so successful**. We hope to work with CARB and stakeholders during future rulemakings to return the program to its technology neutral roots and ensure it remains a durable driver of investment in the clean fuels projects that California needs to meet its goals.

Still, the most important thing is that the Board approve amendments at the November 8, 2024, Board Meeting and CARB timely finalizes the regulatory package, so that program amendments can take effect as soon as possible, including the proposed step down in Q1 2025. We look forward to continuing to work with CARB through implementation guidance and future rulemakings to address the issues below and ensure the LCFS remains a model climate policy that can underpin California's climate efforts and provide a model for other jurisdictions to follow.

ABOUT AMP

Founded in 2011, Amp develops, owns, and operates renewable natural gas ("RNG") facilities that convert dairy waste into renewable energy. Over our history, Amp's projects have prevented over 2 million metric tons of carbon equivalent emissions, and we plan to rapidly expand our impact over the next several years.

As a pioneer in the dairy RNG industry, Amp registered the first 5 dairy RNG-to-CNG pathways in California's LCFS program, and we were the RNG supplier for the first 11 dairy RNG-to-hydrogen pathways. Our experience developing, operating, and reporting on these and other assets gives us a unique perspective on the impact CARB policy has on investment and project development activity related to low carbon fuels. Our projects and resulting methane and carbon dioxide reductions have been made possible by CARB's leadership in decarbonizing transportation, and we encourage CARB to continue to support the technology-neutral, performance-based policy framework that has made the LCFS so unique and successful.

AVOIDED METHANE CREDITING IS CRITICAL TO ACHIEVING CALIFORNIA'S CLIMATE GOALS

As detailed in our comments responding to the November 9, 2022, workshop,[1] dairy biogas projects are low cost in terms of greenhouse gas reductions, but high cost in terms of energy production. Based on cost curve estimates from UC Davis,[2] and updating for inflation, market progress to date, and additional cost drivers not included in their analysis, we estimated at the time that the cost required to increase dairy RNG production in California from the current location on the supply curve would have been $121 per MMBtu. Today, after two years for high inflation and some continued progress up the supply curve, those costs have only increased. It is impractical to expect that energy markets alone will support continued investment in these dairy RNG projects at these prices.

Therefore, in order to sustain investment in these projects and progress toward California's statutory methane reduction goals, the greenhouse gas reductions (that is, avoided methane) from these projects need to be accounted for and valued. That's why the LCFS has succeeded in scaling dairy digester and RNG development, when other approaches have not—lifecycle accounting under the LCFS explicitly values avoided methane emissions, supporting low-cost climate mitigation where energy-only markets cannot.

Continuing avoided methane crediting under the LCFS is absolutely critical to maintaining the viability of existing projects, and development of new ones. Dairy digester projects cost tens to hundreds of millions of dollars and take 2-3 years to develop and construct. Avoided methane crediting provides the source of revenue for these projects that pays for their beneficial impact and allows developers to invest. If in the future, farm methane emissions are regulated directly, milk buyers will foot the bill for reducing emissions through milk prices or government will directly subsidize digesters. But until then, avoided methane crediting is the only proven way to support the development, ongoing operations, and associated emissions reductions that dairy digesters provide.[3]

CARB SHOULD CLARIFY THAT DAIRY AND SWINE MANURE AND ORGANIC WASTE DIVERTED FROM LANDFILL DISPOSAL PROJECTS UNDER DEVELOPMENT ARE ELIGIBLE FOR THREE CREDITING PERIODS FOR AVOIDED METHANE

While we oppose any arbitrary sunsetting of avoided methane crediting, especially before alternative mechanisms are in place to achieve similar climate benefits, we appreciate staff's ongoing efforts to strike a balance among stakeholder perspectives in the proposed amendments. In particular, we appreciate clarification in the Second 15-Day Changes that the change from three to two avoided

[1] https://www.arb.ca.gov/lists/com-attach/125-lcfs-wkshp-nov22-ws-VzZcN1EgAg5QOghr.pdf
[2] https://steps.ucdavis.edu/wp-content/uploads/2017/05/2016-UCD-ITS-RR-16-20.pdf
[3] https://onlinelibrary.wiley.com/doi/10.1111/gcbb.13101

methane crediting periods does not apply to existing projects, which aligns with clarifications we requested in response to the First 15-Day Changes and the principle that new rule changes shouldn't apply retroactively, especially in cases where those changes would upend the economics of projects already under development. Retroactive regulation will set a dangerous precedent that will chill appetite for investment broadly under the LCFS and other regulatory programs in support of state goals.

But there remains an important caveat worth clarifying – Amp had requested clarification that the proposed change in avoided methane crediting would not apply to existing projects *or those under development*.[4] Existing projects and those under development both were financed and developed based on the expectation of receiving three crediting periods, and CARB should avoid amendments that retroactively affect projects and investments previously made.

The impact could be significant. Amp alone has hundreds of millions of dollars of projects under development that have yet to receive a pathway certification, but which were financed under the expectation of receiving three crediting periods for avoided methane. These projects alone are expected to deliver annual emissions reductions of about 250,000 $MTCO_2e$. Across the industry, we expect the impact could be about ten times greater, likely reaching projects and investments totaling billions of dollars and millions of $MTCO_2e$ of annual emissions reductions. Many of these projects have submitted pathway applications to CARB that have been pending for well over a year, with unknown dates for when they'll be formally approved.

Both existing projects, as well as those under development, should receive a safe harbor from regulatory changes that will affect the market moving forward. We hope that CARB can clarify this through the Resolution, guidance or other means.

ADDITIONAL COMMENTS ON SECOND 15-DAY CHANGES

In addition to the proposed amendments to avoided methane crediting, we have consistently opposed changes to book-and-claim accounting, which are arbitrary and singularly designed to disadvantage biomethane compared to other alternative fuels and even fossil-based natural gas, which is almost entirely imported into California from elsewhere in North America. We continue to oppose limitations on book-and-claim access for biomethane projects, and we hope to work through future rulemakings to ensure that biomethane has access to the California market, regardless of its origin in the United States. Still, while we are opposed to the proposed deliverability requirements, we appreciate that the second 15-Day changes provide additional clarity on the program requirements and respond to concerns that other stakeholders and we have expressed regarding the previous proposal and uncertainty around potential approval of a gas system map. Nonetheless, we are concerned by the proposal to tie dates for deliverability requirements to targeted levels of zero emission Class 3-8 vehicles.

We have also consistently advocated for enabling book-and-claim access for biomethane-to-electricity projects, which would only add value and resiliency to the electric vehicle charging ecosystem in California. We appreciate that the Second 15-Day changes now allow for biomethane-to-electricity projects, but we are perplexed why this pathway is limited to use in a fuel cell. This requirement is

[4] https://www.arb.ca.gov/lists/com-attach/7547-lcfs2024-UDFcN1YnWFQLfVcl.pdf

another example of arbitrary restrictions that limit market opportunities for biomethane and do not exist for other fuels under the program.

If nothing else, linear generators should be an eligible technology, as well, as they are similarly a clean, distributed resource, just like fuel cells. In fact, the legislature just unanimously passed, and the Governor signed, AB 1921, which makes linear generators using renewable fuels eligible under the Renewable Portfolio Standard, just as fuel cells are today. CARB should follow suit and allow broader access under the biomethane-to-electricity provisions for at least linear generators, and preferably all electric generation technologies.

While we support the 9% step down, we remain concerned, that combined with the 2030 target, targets over the remainder of this decade are insufficient to drive continued growth in the low carbon fuels market. The regulation appears to rely on the Auto Acceleration Mechanism ("AAM"), which we strongly support, to drive additional investment and progress in the low carbon fuels market. We appreciate the amendments in the Second 15-Day changes to move from annual to quarterly review, which will allow the tool to be more flexible to market conditions. This is a necessary change, since the 2030 target under the program is clearly out of alignment with State's emission goals under the 2022 Scoping Plan, and achieving the state's climate change targets may rely on the AAM triggering multiple times before 2030.

Finally, we reiterate our support for the proposed true-up mechanism and request that CARB allow adjustments as needed, and at a minimum, quarterly, to the margin of safety ("MOS") that a pathway may apply as operational data becomes available. This will allow a pathway holder to adjust a CI proactively to prevent a CI exceedance. We also request that an MOS be allowed for temporary CIs.

SUMMARY

Overall, we applaud CARB for this thorough process and developing proposed amendments that will make the LCFS stronger than it is today, and we strongly encourage the Board to adopt the regulatory proposal on November 8. Unfortunately, the amendments seem limited in their climate ambition, scaling back the program and potential emissions benefits by imposing arbitrary limitations on a number of fuels, including dairy biomethane, and setting targets that do not align with the state's climate goals. We look forward to continuing to work with CARB and stakeholders on implementation of this program and through future amendments, including to address the following:

- Protect conditions and provisions necessary to enable ongoing investment in projects to reduce potent methane emissions from the dairy sector until a new program is in place that can deliver similar environmental benefits.
- Clarify that dairy projects developed under the previous rules, and specifically b**oth existing projects, as well as those under development, should receive a safe harbor from regulatory changes.**
- Expand book-and-claim access for biomethane-to-electricity pathways to all electricity generation technologies, and if nothing else, linear generators.
- Allow adjustments, at least quarterly, to the margin of safety applied to a pathway, including temporary carbon intensities.

Thank you again for your collaboration with stakeholders through this public process and the opportunity to comment on the proposed Second 15-Day Changes. In addition to the comments above, Amp endorses comments submitted by the Coalition for Renewable Natural Gas and Generate Capital. We appreciate your consideration of these comments and all the work put into this rulemaking process by CARB staff, leadership, and the Board.

Sincerely,

Cassandra Farrant

Cassandra Farrant
Head of Environmental Credit Compliance
Amp Americas