AEMETIS

February 20, 2024

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

Dear Chair Randolph,

As one of California's leading renewable fuels producers, Aemetis is pleased to submit comments to the California Air Resources Board (CARB) in response to the Proposed Amendments (Proposed Rule) to the Low Carbon Fuel Standard (LCFS) and associated Initial Statement of Reasons (ISOR). We appreciate the leadership you have shown as Chair to address the critical environmental issues of our time and look forward to working closely with you and the CARB staff to advance the next stage of California's landmark LCFS program.

Headquartered in Cupertino, California, Aemetis owns and operates a 60 mgy renewable fuel ethanol plant in Keyes, California, has eight (8) operating dairy biogas digesters (with an additional 40 digesters planned), operates 36 miles of biogas pipeline (with 24 additional miles permitted), and has an operating RNG gas conditioning unit and PG&E gas interconnection. Aemetis is also in the final permitting and engineering phase to build a 78 mgy sustainable aviation fuel (SAF) and renewable diesel (RD) facility in Riverbank, California. Finally, in 2023 Aemetis was granted a characterization well permit for the eventual construction of a 1 million ton per year carbon capture and underground sequestration well (CCUS) at the Riverbank facility.

In short, Aemetis has clearly shown a commitment to the production of low or below zero carbon intensity fuels that will help California achieve its ambitious goals as set forth in the LCFS and other climate and air quality policies and programs. Aemetis plans to invest an additional $1.3 billion in production facilities to capture methane, produce sustainable aviation fuel, and sequester carbon dioxide in California.

LCFS credits are a significant portion of the revenues for a wide variety of renewable energy, carbon capture, and energy efficiency projects. A failure of the LCFS price to be near the price cap is directly correlated with a failure to attract lenders and institutional investors.

If CARB wishes to attract new investment utilizing the LCFS program, then an ambitious mandate that allows the LCFS price cap to be reached quickly and thereby establish a stable LCFS credit market price is the best way to quickly create confidence in the LCFS program. Any mandate short of a clear price signal that the excess credit bank will be quickly reduced to less than 10 million "excess credits" by year-end 2025 is telling the market that there will always be too many credits – so the price should be low for many years to come.

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As the rapidly accelerating surplus of LCFS credits weighs heavily on the market and market price for credits, we fear that without immediate and dramatic action by CARB, the LCFS will lag well behind the goals envisioned in the ISOR, and the atmosphere for investment in low or below zero carbon projects in California will shift to other states or regions that promise a more fitting economic return. At the present time, California already has a number of well-established sectors that can rapidly advance the LCFS in the near term. Rather than trading existing low or below zero carbon intensity fuels for technologies that will likely take longer to develop wider market acceptance and implementation, CARB can take immediate action to support both the near- and longer-term goals of the LCFS. We urge CARB to avoid making false choices or trading today's low or below zero carbon intensity fuels for tomorrow's promise of better solutions. It is not only possible to have both, but also imperative for the overall success of the LCFS.

To that end, we are concerned that the proposed carbon intensity (CI) compliance curve is inadequate in stimulating the market and needs to be significantly strengthened to draw down the excess credit bank which recently hit a new high of over 20 million surplus credits, with ICF forecasting that the program will have an excess credit bank of more than 30 million LCFS credits by the end of 2024.

The LCFS price was $218 in August 2020, driving investment interest in renewable projects by institutional investors that has now almost disappeared as the LCFS credit price crashed to about $60 in 2023 and recently hit a seven year low at only $55.

Without immediate action by CARB, the LCFS credit price will continue to decline, and investment will stall further. A 2025 target of 25% or greater CI reduction below the 2010 Baseline is needed to address the LCFS credit oversupply issue. This step-down should be implemented in Q3 or Q4 of 2024.

Without immediate and meaningful action this year, investors and obligated parties have little or no incentive to accelerate the implementation of low or below zero carbon intensity fuels in California, which will not only damage existing and planned development, but it will also remove the sense of urgency needed to achieve meaningful carbon reduction in the state's transportation matrix.

Aemetis also encourages CARB to adopt a more aggressive CI reduction target than the 30% by 2030 that was put forward in the January 2, 2024*, Proposed Amendments to the LCFS.* We support a 40% CI reduction target by 2030. Extensive quantitative modeling by ICF Resources concludes that implementing this strategy would increase the current approximate $55 credit price to $100-$120 by the end of 2025 and maintain at least that price through 2030.

Additional RNG-related changes are needed to improve investor confidence and increase the pace of methane emissions abatement. We strongly urge CARB to implement the following items that are critical to the near and long-term success of RNG as a fuel or feedstock:

- We support a full true-up to verified actual CI performance for all pathways (temporary, provisional, and fully certified). Dairy Manure Digesters experience substantial increases and decreases in gas production due to weather, livestock herd changes, and other factors that are not present in other fuel pathways. Because the carbon intensity of the gas from these systems is calculated against a quantity of avoided methane emissions, these variations in biogas production necessarily result in outsized changes in the digesters' carbon intensity (CI) scores every year. Under the current structure of the LCFS (prior to the changes proposed in this rulemaking), all dairy digester pathways experience the following negative impacts:

1. Substantial underestimation of greenhouse gas benefit (and associated lost revenue) during the project startup period.
2. Substantial risk of underestimation of greenhouse gas benefit (and lost revenue) each year during annual verification.
3. Substantial risk of LCFS enforcement, resulting in fines (NOV) or potential pathway cancellation, due to weather patterns and at no fault of the pathway holder.

Currently, pathway approvals require 18 months or more which imposes severe financial hardships on finished projects and those in planning stages. A full credit true-up would allow completed projects to apply their actual CI performance retroactively to the start of operations and thus eliminate the need to store gas. We support the *Proposed Amendment's* inclusion of a "Credit True Up" after Annual Verification. ***However, the Proposed Amendment's true up language requires re-drafting as it appears to not allow true ups during the temporary pathway period.***

When implemented properly, such a concept can ensure that the LCFS program correctly accounts for the full GHG benefits all fuel pathways produce.

- The Auto Acceleration Mechanism should be allowed to trigger as early as 2026 using data from 2025. This would dynamically respond in the event of future sustained and significant underestimation of CI reduction targets by further tightening the overall stringency of the program, complement existing mechanisms to avoid credit shortfalls, and better ensure that opportunities to deliver additional reductions of carbon and air pollutants are not foregone.

- We support the revised Tier 1 calculators and urge improving pathway processing times by utilizing the Tier 1 application as the norm for dairy RNG project applications, not the exception. The current initial review delay of over one year has put existing project capital repayment in jeopardy, and if this persists, will stymie future investment in RNG and other zero or below zero carbon projects. Today, each $4 million completed project must endure an 18- to 24-month administrative review to fully certify the project's LCFS pathway. Given the urgent nature of climate change and the need for methane abatement, this delay is completely unacceptable. Certification should be performed in less than a six-month window, as is the norm with most Tier 1 applications.

- We strongly oppose the phase-out of avoided methane crediting for dairy RNG projects. Given the importance of LCFS crediting in project viability, it is unwise and irresponsible to propose an arbitrary phase-out of avoided methane crediting without a detailed plan for developing a supporting replacement policy. At current LCFS credit prices, a framework without avoided methane crediting may not even cover operating costs for existing agricultural-based projects. Absent some new market that covers the cost of operations, existing digesters will not continue operating after their avoided methane crediting periods expire, leaving the state with billions of dollars of stranded biomethane capture assets and resulting in methane returning to California's environment or, much worse, the cancellation of projects before they are built.

Finally, Aemetis strongly encourages CARB to approve 15% ethanol blended gasoline (E-15) in California in 2024. E-15 was first approved by the US EPA in 2012, and California remains the only US State not to adopt an E-15 gasoline blend.

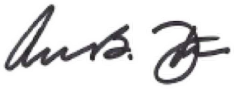
Over the past 12 years, billions of miles have been driven utilizing E-15, and no notable safety, environmental, or vehicle damage concerns have been presented. In 2023, the US EPA approved E-15 for year-round use. California has performed all of the required air and road testing required to adopt E-15, and yet CARB inexplicably refuses to approve the use of E-15.

Beyond the environmental attributes of renewable E-15 (higher octane, lower tailpipe emissions), E-15 will reduce prices at the pump for California residents as ethanol consistently sells at a discount to gasoline. Californians continue to suffer from higher gasoline prices than most states, which creates economic and environmental harm - especially to marginalized and disadvantaged communities. While Aemetis supports CARB's push for increased adoption of ZEVs and alternative fuel vehicles, longer than anticipated adoption rates require interim steps that can provide immediate GHG reductions. E-15 will allow California to pursue aggressive ZEV adoption over the next decade while reaping the benefits of lower tailpipe emissions today. No action on E-15 keeps gasoline prices artificially high and causes more pollution than necessary.

As the world leader in environmental policy, it seems out of character for California to be the laggard as the only US state to support a 90% petroleum gasoline mandate. We urge CARB to fully approve an E-15 gasoline blend immediately. Otherwise, Californians will endure yet another summer of record setting gasoline prices, economic hardship, and increased air pollution.

We appreciate the opportunity that CARB has provided for input on the Proposed Rule/LCFS, and the ongoing dialogue that you have encouraged through workshops, meetings, and written comments. We strongly support the efforts that you and the CARB staff have made to include feedback from all interested parties, and we look forward to working together as this important next step is taken to achieve net carbon neutrality.

Sincerely,



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