



20 February 2024

VIA ELECTRONIC FILING

Matthew Botill
Branch Chief, Industrial Strategies Division
California Air Resources Board 1001 I Street
Sacramento, California 95814

RE: Proposed 2024 Low Carbon Fuel Standard Amendments

Dear Mr. Botill,

Monarch Bioenergy LLC (Monarch) develops, owns, and operates several of the most significant Renewable Natural Gas (RNG) facilities in CARB's LCFS program. As a long-term participant in the LCFS program, Monarch applauds CARB for continuing to develop and enhance the LCFS program, which supports innovative Renewable Natural Gas projects in California and across the United States.

CARB continues to identify RNG's critical role in reducing methane emissions as a potent short-lived climate pollutant, as stated in CARB's 2017 Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The concentration of methane in the atmosphere is increasing at an alarming rate, and there is no more effective and immediate step we can take than to aggressively and rapidly reverse emissions of fugitive methane from all sectors, including society's organic waste streams. Accordingly, Monarch respectfully submits these comments to the California Air Resources Board in response to the Proposed Amendments to the Low Carbon Fuel Standard posted on 19 December 2023.

1. Increase the 2030 Annual Carbon Intensity Benchmark from 30% to 40%

Increased program ambition is critical for continued methane reduction and growth in all low-carbon fuels. Due to the observed surplus of LCFS credits over the last two years, it is crucial to implement a significant reduction in the Annual Carbon Intensity (CI) Benchmarks. The forecast for 2030 indicates an abundance of credits compared to deficits, leading to a rapid build-up in the bank, a decline in prices, and a potential stall in low-carbon fuel investment. To address this issue and to maintain a healthy market, CARB should ideally focus on mitigating the current trend and carefully transitioning from large quarterly surpluses to modest deficits. Setting an appropriate trajectory for the CI Benchmarks and making improved target setting a pivotal aspect of the rulemaking process are excellent ways to achieve this result.

Monarch supports a more aggressive CI reduction from CARB's proposed 30% target to 40% by 2030. Throughout the rulemaking process, consulting firm ICF, with experience modeling supply and demand for clean fuel programs, has independently analyzed feasible program targets and revealed significant disparities in LCFS credit price outcomes compared to CARB's analysis¹. The ICF analysis indicates that a 2030 target exceeding 30% CI reduction is achievable with a lower credit price trajectory than anticipated in CARB's LCFS planning scenarios.

¹ *Analyzing Future Low Carbon Fuel Targets in California*, February 2024,
<https://static1.squarespace.com/static/5b57ab49f407b4a7ffa44ffa/t/65cd3c74d1a72f445cdc7a7e/1707949173143/ICFReport2024.pdf>

2. Continue to support and enhance RNG projects based on methane reductions.

CARB appropriately recognizes the crucial role of reducing methane emissions in the Proposed Amendments in combating global climate change and the positive impact of RNG in facilitating methane reductions, regardless of the project's location or ultimate end-use. To address climate change, we must aggressively and rapidly reverse fugitive methane emissions from all sectors, including organic waste streams. Thus, we encourage CARB to advocate for keeping and even increasing RNG-related opportunities to boost investor confidence, accelerate methane emission reductions, and highlight the urgency of addressing methane as a potent climate pollutant on a global scale.

Leading authorities have echoed the need to reduce methane emissions. In 2023, the International Energy Agency's (IEA) report featured a dedicated section on Biogas and Biomethane², underscoring global acknowledgment of biogas in decarbonization. The report forecasts the deployment of renewable energy technologies in electricity, transport, and heat until 2028, addressing fundamental challenges and identifying barriers to industry growth. The IEA highlights the role of biogas and biomethane in fostering a circular economy through residue and waste valorization, contributing to rural economic development, and generating rural employment. Additionally, the US EPA has endeavored to promote anaerobic digester installation for productive energy use for the last 30 years since the inception of the AgStar program in 1994. Both reports support CARB continuing to utilize a fact-based analysis for LCFS updates.

Until there is a more effective replacement for avoiding methane emissions, CARB should continue to allow avoided methane credits as a pivotal tool to reduce methane emissions. A fixed-year phase-out of avoided methane crediting may jeopardize the viability of future agricultural RNG projects. These projects rely heavily on LCFS revenue for profitability, with avoided methane components essential for meeting capital repayment requirements. Without methane crediting, existing agricultural projects may struggle to cover operating costs, leading to potential closures and the risk of losing the opportunity to abate significant methane release. CARB should not arbitrarily embrace an avoided methane reduction phase-out without a detailed replacement policy for those emissions. This policy is essential to reduce significant LCFS project risks, avoid potentially stranding assets, and ensure continued investment and buildout of projects that can reduce organic methane release wherever possible.

3. Amend Proposed Amendments Deliverability Language

Request to amend or delete the proposed deliverability amendment language. CARB's requirements, influenced by concepts from California's Renewable Portfolio Standard (RPS), propose mandates for deliverability starting in 2041 for specific biomethane pathways. However, the 50% standard lacks environmental benefit or justification in the current physical gas system. Due to administrative complexity, this requirement could drastically reduce RNG use in California from sources outside of the state under the LCFS. Past experiences, such as RPS deliverability language, have historically created a barrier to imports, hindered facility development, increased costs, and were, ultimately, unsuccessful in creating a well-functioning California-only electric grid. We encourage CARB to revisit the state's learnings from the RPS example and remove the Proposed Amendments deliverability language.

Furthermore, a successful RNG framework should leverage existing gas system realities, avoiding assumptions of a static nature or limiting supply to specific regions. The U.S. natural gas pipeline system is interconnected and bidirectionally flowing, carefully tracking volumes throughout the system with state and federal oversight and third-party pipeline metering. Repurposing the established natural gas infrastructure for efficient delivery of a low-carbon fuel blend, including RNG, aligns with efforts to reduce gas demand through enhanced energy

² <https://www.iea.org/reports/renewables-2023/special-section-biogas-and-biomethane>

efficiency and electrification. Given RNG's physical interchangeability with fossil natural gas, distributing it within the longstanding pipeline system that has efficiently served California for decades is feasible. Therefore, a 50% flow requirement is arbitrary and unjustified, as the gas system's bidirectional nature allows for effective RNG movement across North America.

We encourage building an RNG framework based on the realities of existing gas systems without assuming static conditions and urge CARB to avoid implementing RNG deliverability requirements that favor fossil gas in the interest of fairness and practicality within the gas system.

4. Triggering the Auto Acceleration Mechanism

Monarch supports adopting an Automatic Accelerator Mechanism (AAM) and amending the proposed language to trigger the AAM earlier. The AAM is a complementary refinement to the step-down in program stringency within the LCFS. This mechanism will dynamically respond to sustained and significant CI reductions by tightening programmatic stringency, increasing investor certainty in credit markets.

Acknowledging the challenges in predicting technological innovation and feedstock availability, the AAM aims to adjust the program's stringency when the market significantly surpasses the set requirements. This feature automatically responds to significant and sustained credit generation beyond program targets while enhancing overall LCFS certainty. By doing so, it encourages ongoing investments and innovation in clean fuels. The credit bank expands when the program experiences substantial overperformance, slowing innovation and investment in low- and zero-carbon fuels. The AAM addresses this by giving the market greater certainty that the program's stringency will automatically adjust based on publicly available data, ensuring a transparent and predictable response to surplus credit accumulation over an extended period.

While CARB's current timeline suggests the AAM's implementation in 2028, Monarch recommends allowing 2025's performance to trigger the AAM. By doing so, CI reduction targets for 2027 will commence one year earlier than in the Proposed Amendments. This clarifies and improves Monarch's ability to make significant additional capital investments in decarbonization projects.

Monarch Bioenergy appreciates this opportunity to contribute to the ongoing dialogue on these central decarbonization topics. We greatly appreciate CARB's continued efforts to find the best solution for the industry and your constituents. Your commitment to addressing these issues is vital for our industry and highly appreciated. We trust that the outcome will reflect a robust and practical framework for the benefit of all stakeholders. Thank you.

Sincerely,

Sean M. Lock

Sean Lock
President and Chief Investment Officer
Monarch Bioenergy LLC