



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

March 15, 2023

RE: Potential Changes to the Low Carbon Fuel Standard

Dear Chair Randolph and Members of the Board:

California's Low Carbon Fuel Standard (LCFS) is the gold standard that drives investments in low carbon fuels and sound environmental policy across the country. As an original stakeholder and steadfast supporter of the LCFS, Clean Energy recognizes the achievements of the current policy, and values CARB engagement on this important update.

We strongly support several of CARB staff's recommendations, including increasing compliance curve stringency targets, near-term step-downs, and other changes that aggressively accelerate the decarbonization of California's transportation fuels.

At the same time, we are deeply concerned about the potential phase-out of renewable natural gas (RNG) book-and-claim delivery and avoided methane crediting, which will strand RNG assets and cause a back-slide of GHG emissions reductions in California and nationwide. The LCFS is working better than intended, and all fuel categories participating in the program need to be supported, not restricted, if the state is to achieve carbon neutrality by 2045. We ask that CARB staff postpone the consideration of any controversial structural changes that do not deliver market certainty or ensure continued RNG investment to capture Short-lived Climate Pollutants.

Please consider these comments in conjunction with our earlier letters submitted on August 8, September 19 and December 21, 2022. These previous communications reflect feedback on issues brought forward by CARB staff in previous LCFS workshops, and include the issues below:

- Support for a self-correcting "ratchet" mechanism;
- Maintenance of avoided methane crediting;
- Acceleration and simplification of the pathway certification process;
- Addition of a pathway CI "true-up" on new pathway applications;
- Inclusion of locally procured renewable process energy, as allowed in zero-carbon intensity pathway applications; and;
- Support for the creation of a Tier 1 calculator for Hydrogen.

Our current responses to key questions from the February 22, 2023, workshop follow below.

AGGRESSIVE CARBON INTENSITY TARGETS DELIVER DESIRED EMISSIONS REDUCTIONS

Clean Energy remains highly supportive of the proposed 35% carbon intensity (CI) reduction target by 2030 relative to a 2010 baseline: Alternative C. We also join the majority of other stakeholders who support CARB's pursuit of a greater level of stringency in the pre- and post-2030 compliance curve. We, therefore, urge CARB to be ambitious in setting future compliance targets and utilizing the full potential of available fuels to drive down carbon emissions today. The transportation sector is the largest carbon emitter in California apart from wildfires, and the LCFS should incentivize and encourage the adoption and use of the lowest carbon transportation fuels commercially available.

CARB-certified CNG engines paired with RNG fuel can reach hard-to-decarbonize medium- and heavy-duty vehicles today while meeting the cleanest internal combustion engine (ICE) standards set by CARB. This finding has also been confirmed by the newly released UC Riverside and West Virginia University 200 Truck Study that evaluated in-use emissions performance from ICE trucks powered by several different fuels. As heavy-duty ZEVs gradually move toward widespread adoption, CNG trucks can provide an interim safety net that can deliver deep near-term emission reductions without having to default to diesel-powered trucks which emit exhaust that is identified by the Office of Environmental Health Hazard Assessment as a known toxic air contaminant.

The tightening of pre-2030 targets will accelerate the carbon intensity reductions leading up to 2045, boost investor confidence in the LCFS, and support higher LCFS prices that are required to drive the low carbon fuel production. In partnership with various stakeholder groups, ICF is preparing a study that will support how a steeper target is needed for California to meet its ambitious environmental goals required by law and outlined in the Scoping Plan. In our view, Alternative C should be the minimum target recommended to the CARB governing board later this year.

AVOIDED METHANE EMISSIONS CREDITING IS KEY TO RNG INVESTMENT

Avoided methane credits are critical to digester projects that convert organic waste into renewable energy. Today, dairy waste-to-RNG projects require significant upfront capital investment, inclusive of public equity, and have higher operational costs compared to other renewable energy projects. We estimate that LCFS credits could make up approximately two-thirds of total future project revenues. Without these credits, profitability would be unattainable and would result in stranded assets. In general, RNG development projects that we invest in have forecasted payback periods of ten years prior to the inclusion of tax benefits.

We strongly advise against a phase-out of avoided methane crediting short of adopting a replacement policy to take its place, as this could potentially derail tens, if not hundreds, of millions of dollars in planned infrastructure investments, including the 200+ projects needed to meet California's 2030 dairy/livestock sector methane reduction goals. Avoided emissions from dairies

are essential to meet California's climate goals, as confirmed in CARB's first denial of the Petition¹ and the second denial of the Petition for Reconsideration.² In our opinion, eliminating avoided methane crediting will slow, chill, or reverse the state's significant progress on SLCP reductions.

We believe CARB needs to carefully and clearly communicate its intent around avoided emissions crediting, as investors evaluate the role of RNG for various end uses. Policy uncertainty can send out unintended market signals. For example, after the November 9th release of the CARB PowerPoint presentation, several major developers, including Clean Energy, paused development on a number of dairy projects that otherwise would be moving forward.

CARB staff should recognize that significant policy amendments and programmatic changes can unintentionally undermine the very trust CARB has worked so hard to build with the investment community; an essential partner that is putting private capital to work in California to combat both air pollution and climate change.

BOOK AND CLAIM IS AN INDUSTRY STANDARD

Book-and-claim is the preferred method for delivering RNG in North American clean fuel programs, including EPA's Renewable Fuel Standard,³ the Canadian Clean Fuel Regulation, the Oregon Clean Fuels Program, and the Washington Clean Fuels Program, as well as for electricity and hydrogen projects. Gas utility procurement programs for RNG also primarily use similar concepts, and Europe's Renewable Energy Directive requires book-and-claim for successful RNG project buildout in the European Union.

Abandoning book-and-claim for deliverability requirements aligned with the California Renewable Portfolio Standard (RPS) would be disastrous for the RNG industry. On paper the RPS requirements appear simplistic, but in practice the policy essentially prohibits the use of imported RNG as a transportation fuel. In fact, no new importing facilities were constructed to serve the RPS after the deliverability language was added in 2012⁴. An RNG project would need to contract with every pipeline company to deliver their product, do daily balancing across the entire pipeline system, and pay tolling fees to all stakeholders in the value chain. The administrative requirements of the RPS present an insurmountable barrier to import RNG, especially for smaller projects like dairy digesters, and do not offer any environmental benefit.

It's also important to recognize the amount of in-state RNG production has been increasing rapidly in California over the past few years and now enjoys a greater proportionate market share than

¹ CARB, "Petition for Rulemaking to Exclude All Fuels Derived from Biomethane from Dairy and Swine Manure from the Low Carbon Fuel Standard Program," January 26, 2022

² CARB, "Petition for Reconsideration of the Denial of the Petition for Rulemaking to Exclude All Fuels Derived from Biomethane from Dairy and Swine Manure from the Low Carbon Fuel Standard Program," April 25, 2022

³ <https://www.biocycle.net/biogas-rng-projects/>

⁴ California Energy Commission RPS data here: <https://rps.energy.ca.gov/Pages/Search/SearchApplications.aspx>

many other competing forms of energy. California projects produce roughly 20% of the RNG used in California's transportation sector compared to 8 or 9 percent for the biodiesel and renewable diesel sectors, respectively. California is supporting in-state producers without harming out-of-state producers such as with SB 1440, which already provides in-state producers with a competitive advantage by requiring eligible RNG to be physically delivered to California.

That said, in-state producers cannot and will not come close to replacing the fuel volume lost if out-of-state producers are no longer allowed to participate in California. Out-of-state producers have and continue to make substantial contributions to California's climate and clean air goals. Greenhouse gas emissions do not stop at California's borders, and most other states do not have clean fuel programs or come as close to California when it comes to tackling our climate crisis.

If CARB chooses to pursue Alternatives A or B, we would appreciate receiving clarity on how CARB will approve projects that meet the directional flow requirement of "50% of the time" as outlined in the latest CARB workshop. Additionally, the CATS tool does not currently quantify out-of-state gas supply, nor does it explain the emissions reductions from in-state sources alone. Before any changes are made to the treatment of imported RNG under the LCFS it is imperative that CARB staff fully understand the impacts on the market, industry, and state.

LIKELIHOOD OF EXPORTING TO OTHER STATES MUST BE CONSIDERED

California's LCFS is currently setting the gold standard for decarbonizing transportation. So much so that other states are actively considering adopting similar policies modeled on California's LCFS program. We urge CARB to consider how any significant changes might impact low carbon market development and investment and therefore jeopardize the adoption of LCFS policies in other states. Exporting California-style greenhouse gas policies to other states is a key goal of California's climate legislation (i.e. AB 32, SB 1383, etc.). Expansion of these programs will help achieve methane emission reductions and increase low carbon fuel production across the country, demonstrating nationwide leadership on reducing the climate impacts of agriculture and broadly promoting lower carbon fuels. As these programs are implemented over time, out-of-state RNG supply will gradually shift away from California in order to serve local demand and in-state RNG production will become a robust industry.

CONCLUSION

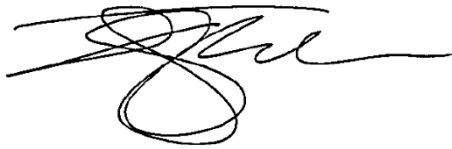
California has a substantial opportunity to meet its ambitious greenhouse gas, short-lived climate pollutant, and carbon neutrality goals by aggressively focusing on tightening the carbon intensity curve. It can also help reduce NOx and air toxic emissions by maintaining its treatment of RNG production and delivery to market. Approximately 800,000 hard-to-decarbonize diesel trucks are needed to transition to a zero emissions future, and as this transition takes place, CNG trucks powered by RNG can provide a critical safety net that delivers deep reductions in carbon emissions and air pollution. No other state in the Union is better positioned to drive low carbon production and use to displace diesel.

Now is not the time to hold back and disorient the market when this nascent industry is delivering real benefits and can help California meet its ambitious targets. CARB has the full authority to reevaluate the LCFS program and make changes at any given time. We encourage CARB staff to heighten its focus on compliance curve stringency and to take more time to consider programmatic changes to the various fuel categories at a later date when the agency has adequate time to weigh the costs and benefits of its policy decisions.

Clean Energy is committed to partnering with CARB and Governor Newsom to achieve California's climate and clean air goals and remains dedicated to ongoing engagement with CARB as this process moves forward.

Thank you for your consideration of our comment letter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Todd R. Campbell', with a stylized, looping flourish at the end.

Todd R. Campbell
Vice President of Public Policy & Regulatory Affairs
Clean Energy