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Ms. Rajinder Sahota
Deputy Executive Officer - Climate Change & Research
California Air Resources Board
1001 I Street
Sacramento, California 95814

(Comment submitted electronically)

RE: CleanFuture Comments on the August 12, 2024 Proposed Amendments to the Low Carbon Fuel Standard

Dear Ms. Sahota:

CleanFuture appreciates the opportunity to submit written comments in response to the proposed amendments to the Low Carbon Fuel Standard (LCFS) posted on August 12, 2024. CleanFuture appreciates the time and effort that staff has put into engaging the public and crafting the updates to the program over the last several years and for considering CleanFuture's comments submitted in response of the 45-day draft rule package published last December. This letter focuses on selected elements of the proposed amendment:

1. Establish a Temporary CI for Biogas-to-electricity
2. Align Deliverability of Low-CI Electricity with other Fuels and other Clean Fuel Standards
3. Allow Book-and-Claim of Biomethane to Off-site Electric Generators
4. CARB's Proposed Remedy of 4x Penalty for CI Exceedance is Excessive and Discourages Investment
5. Clarify Site Visits for Third-party Verification (3PV) of Electricity and Hydrogen for Quarterly Fuel Transaction Reporting (QFTR)

CleanFuture is a leading environmental company that has worked for over a decade to electrify and improve the efficiency of a wide range of vehicle fleets. CleanFuture, Inc. has built a strong platform connecting clean vehicle fleet customers with low carbon fuels (electricity and other fuels), particularly zero and sub-zero CI fuels, serving both on the supply and demand side in multiple programs and jurisdictions. CleanFuture is also an active fuel pathway developer.

CleanFuture provides the following comments:

1) Establish a Temporary CI for Biogas-to-electricity

No temporary CI exists for dairy biogas-to-electricity projects and CARB's failure to correct this discriminates and disadvantages the use of Low-CI electricity in electric vehicles. A temporary CI pathway is available for biomethane from dairy manure and swine manure in *Table 8- Temporary Pathways for Fuels with Indeterminate CIs* however Table 8 excludes biogas-to-electricity if produced from that same dairy manure or swing manure. CARB staff must remedy this oversight by establishing a temporary pathway for biogas-to-electricity with dairy manure or swine manure feedstock. Because biogas-to-electricity from dairy manure projects consistently have a lower (more negative) CI than bio-CNG, CleanFuture suggests a temporary CI of -200 gCO2e/MJ for these biogas-to-electricity projects.

Project economics for biogas-to-electricity projects is more challenging because biogas-to-electricity projects are not eligible to participate in the federal Renewable Fuel Standard. Failure to allow a temporary CI for biogas-to-electricity further disadvantages dairy biogas electricity projects than if those projects were to upgrade and clean that same biogas into biomethane for vehicles.

CleanFuture is appreciative and commends CARB for proposing a credit True-Up back to the temporary CI, recognizing the actual GHG emission reductions that have occurred when a project's provisional CI score is certified. Unfortunately, with no temporary CI for Dairy Biogas-to-Electricity, these projects are ineligible to be retroactively credited and are further disadvantaged. They are also exempt from the Tier 1 pathway approach since no Tier 1 GREET model was developed for electric projects. This means that biogas-to-electricity projects are subject to approximately two years of review time and therefore two years without credit generation and are denied a True-up as a temporary pathway.

2) Align Deliverability of Low-CI Electricity with other Fuels and other Clean Fuel Standards

CARB should level the playing field across pathways for book-and-claim. Under the existing LCFS regulation, biogas-to-electricity projects participating in the LCFS must physically wheel the power into California, while biomethane projects may be located anywhere in North America and use book-and-claim accounting to demonstrate use for LCFS compliance. The most efficient, cost-effective way to make sure the LCFS program enables the most beneficial projects is to maintain a level playing field for pathways that rely on the same feedstock. A major step towards aligning requirements for projects with the same feedstock (biogas) and unlocking the untapped emissions reductions of biogas-to-electricity supporting transportation electrification, would be to let biogas-to-electricity projects use book-and-claim accounting anywhere in the Western Electricity Coordinating Council (WECC), as is already the case in Oregon under their Clean Fuels Program and in Washington under their Clean Fuel Standard. CARB's goal of exportability of the LCFS into other jurisdictions, and other jurisdictions are adopting or aligning their respective clean fuel standards with the LCFS, yet CleanFuture

encourages CARB to reciprocate and adopt beneficial rules and practices that may originate outside of California.

3) Allow Book-and-Claim of Biomethane to Off-site Electric Generators

An important opportunity for CARB to incentivize additional GHG emission reductions is to expand the language in §95488.8(i)(2) to allow for the book-and-claim of pipeline-injected biomethane to be used to generate Low-CI electricity as a transportation fuel. Currently, CARB recognizes electricity as a transportation fuel in §95482(b) and moreover in §95488.8(i)(1) recognizes that "Low-CI electricity used as a transportation fuel can be indirectly supplied through a green tariff program…or other contractual electricity supply relationship." This is achieved by REC-matching, where the reporting entity must demonstrate that the low-CI electricity is supplied through book-and-claim accounting to electric vehicle charging provided "that any renewable energy certificates associated with the low-CI electricity were retired in the WREGIS for the purpose of LCFS credit generation" (see §95491(d)(3)). However, in the context of electricity derived from low-CI dairy biogas, this pathway requires the RECs to be created from a generator co-located with the digester.

Given the recognition CARB has for 1) book-and-claim of Low-CI electricity production to be matched to electric vehicles, and 2) biomethane injected into the commercial distribution pipeline and withdrawn at a CNG station in California, CleanFuture argues that by the same logic, biomethane injected and withdrawn via book-and-claim should qualify for the purposes of generating electricity. In this construct, RECs generated from an electric generator located off-site from the dairy powered by gas fed through the utility pipeline should similarly be allowed to match RECs to electric vehicles.

Please consider including the following edits in bold and underline to the draft LCFS regulation:

Section §95488.8(i)(2):

(2) Book-and-Claim Accounting for Pipeline-Injected Biomethane Used as a Transportation Fuel or to Produce Hydrogen ***or to Generate Electricity***. Indirect accounting may be used for RNG used as a transportation fuel or to produce hydrogen **or to generate electricity** for transportation purposes (including hydrogen that is used in the production of a transportation fuel), provided the conditions set forth below are met:

(A) RNG injected into the common carrier pipeline in North America (and thus comingled with fossil natural gas) can be reported as dispensed as bio-CNG, bio-LNG, or bio-L-CNG, or as an input to hydrogen production **or to electricity production**, without regards to physical traceability. Entities may report natural gas as RNG within only a three-quarter time span. If a quantity of RNG (and all associated environmental attributes, including a beneficial CI) is pipeline-injected in the first calendar quarter, the quantity claimed for LCFS reporting must be matched to natural gas sold in California as RNG no later than the end of the third calendar

quarter. After that period is over, any unmatched RNG quantities expire for the purpose of LCFS reporting.

…

(C) To substantiate RNG quantities injected into the pipeline for dispensing as bio-CNG, bio-LNG, or bio-L-CNG or as an input to hydrogen production **or to electricity production**, the pathway application and subsequent Annual Fuel Pathway Reports must include the following documents linking the environmental attributes of RNG (in MMBtu or Therms) with corresponding quantities of natural gas withdrawn:

1. Unredacted monthly invoices showing the quantities of RNG (in MMBtu) sourced and the contracted price per unit;
2. Unredacted contract by which the fuel pathway holder obtained the environmental attributes.

This approach aligns with CARB's existing book-and-claim accounting framework and greater GHG reductions could be realized by making this targeted change to the regulatory text that is consistent with CARB's objectives of supporting the transition to zero emission transportation. As noted, this recommendation is fully aligned with CARB's goals expressed in the Initial Statement of Reasons (ISOR), which seeks to ensure the LCFS program incentivizes "the production of low-carbon and renewable alternatives, such as low-CI electricity" and acknowledges that "biomethane can play a key role in decarbonizing stationary sources" and additional end uses such as electricity generation can displace the need for fossil gas.

CARB would be remiss to lose this opportunity to encourage and incentivize low-CI dairy biomethane to be used for electricity generation. This will create an additional market for biomethane derived from dairy biogas, as CARB has signaled it is seeking to phase it out of combustion in CNG vehicles and "direct biomethane to sectors that are hard to decarbonize or as a feedstock for energy."[1] Directing biomethane as a feedstock to electricity production is a readily available solution and further encourages grid resiliency, and also alleviates local electric distribution constraints. CleanFuture has many large fleet clients with inadequate electric supply capacity at fleet depot locations, with Advanced Clean Fleets (ACF) and other requirements for zero emission vehicles this is a monumental challenge. Allowing book-and-claim electricity from biomethane (offsite from the digester) to electric vehicle fleet fueling could bolster and alleviate electric distribution constraints at freight and goods movement facilities.

4) CARB's Proposed Remedy of 4x Penalty for CI Exceedance is Excessive and Discourages Investment

CleanFuture remains concerned that the four-to-one CI penalty is likely to have a dampening effect on project investments. The language in the proposed regulation for 95486.1(g) was not developed or vetted in a workshop, the proposed language would apply a four-to-one CI penalty if it moves unfavorably to the credit-generating CI during the true-up, which is in

[1] https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf

addition to the necessary credit adjustment. Operators will be forced to apply an overly conservative margin of safety to the CI of projects, reducing its quarterly revenues. Entities that intend in good faith to comply with the true-up, but fall short, will be disproportionately penalized, resulting in a disincentive for investment when more investments are needed to achieve the LCFS program goals.

5) Clarify that Site Visits for Third-party Verification (3PV) of Electricity and Hydrogen is to the Central Records Location for Quarterly Fuel Transaction Reporting (QFTR)

As stated in our 45-day comments, CleanFuture is supportive of moving towards 3PV of quarterly fuel transaction reports (QFTR) if the verification protocols and guidelines for electricity and hydrogen can be reasonably matched with the characteristics of dispensing these fuels with high transaction counts of relatively low transaction value across diffuse and diverse vehicle applications and locations.

As several verification providers, aggregators, and other parties have noted in comments to the 45-day rule package, it would not just be logistically and financially infeasible, but outright *impossible*, for verifiers to send their employees to visit the thousands of disparate sites containing electricity FSE. We do not believe this was CARB's intent when including electricity transaction types as subject to third-party verification requirements under the revisions in §95500.

CleanFuture submits that site visits are costly and unnecessary for EV transactions, and instead third-party verification of EV charging should be verified by desktop review; CARB should remove requirements for site visits to EV charging stations in §95501(b)(3) to recognize that EV charging fuel transaction data is housed on electronic records systems and not individual EV charging stations. A site visit requirement burdens the participation of EV charging in the LCFS; remote site visits / desktop reviews were proven to be effective during the pandemic. CleanFuture urges CARB to modify rule text to allow desktop review of EV charging transactions.

If CARB insists on a site visit for third-party verification of EV transactions, then CleanFuture requests for CARB to clarify that for verification of transaction types identified in §95500(c)(1)(E), the required site visit is to the location where the records are stored. Any additional site visits are to be performed at the verifier's discretion following a risk-based approach informed by a sampling plan.

As part of Oregon's rulemaking process to update the clean fuels program, Oregon has proposed clear rules that provide the necessary flexibility for third-party verifiers to ensure with adequate certainty that participants are not misreporting data. As proposed in the current Oregon draft rules, for entities using credit aggregators (i.e., designated entities), site visits to facility locations (beyond where the aggregator's records are kept) may be performed at the verifier's discretion.[2] This represents a typical set of requirements for verification bodies to

[2] https://ormswd2.synergydcs.com/HPRMWebDrawer/Record/6798709/File/document

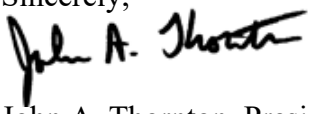
come to a reasonable level of assurance - the standard for a positive verification statement - as opposed to seeking an absolute level of assurance by visiting every parking lot in the state with a registered FSE.

While we understand that CARB desires to apply verification requirements equally to all reporting entities throughout the LCFS program, the nature of EV charging equipment is such that the verification process could require multiple months of continuous travel to achieve 100% visitation of all sites with registered FSE. This impractical requirement would pose serious issues for verification bodies and designated entities alike, while adding exorbitant costs to participate in the program. Failing to make these changes would discourage EV participation in the program, especially for entities with many distributed FSE.

While we feel the estimated cost of verification as shown in Table 46 on page A-1 of the SRIA is exorbitant, we are concerned that the actual verification costs will be significantly higher for entities with many distributed FSE unless CARB makes this clarification.

CleanFuture appreciates this opportunity to provide feedback, and we look forward to continuing to work with CARB on the LCFS program. Please advise if any further input on these issues would be constructive.

Sincerely,



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