



September 19, 2022

Ms. Cheryl Laskowski  
Branch Chief, Transportation Fuels  
California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

**RE: LOW CARBON FUEL STANDARD AUGUST 2022 WORKSHOP**

Dear Ms. Laskowski:

Amp Americas (Amp) wants to thank the California Air Resources Board (CARB) for the opportunity to comment on the 2<sup>nd</sup> Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard (LCFS) that was held on August 18, 2022. Amp strongly supports the LCFS and the work CARB does to decrease the carbon intensity (CI) of California's transportation fuels and provide a range of low-carbon renewable alternatives to the market. We agree with CARB's approach to a diverse fuel mix to decarbonize California and its inclusion of renewable natural gas (RNG).

Founded in 2011, Amp Americas develops and operates renewable natural gas facilities focused on converting dairy waste into carbon-negative renewable transportation fuel and power, as well as sources and markets ultra-low carbon intensity RNG to supply fleets.

As a pioneer in the dairy RNG industry, Amp registered the first five dairy RNG pathways to California's LCFS, and our experience building, operating, and reporting these assets gives us a practical assessment on how the LCFS can assist in transforming California's transportation sector towards CARB's carbon neutrality goals. Amp supports the concepts proposed by CARB staff during the workshop: revisiting Tier 1 Simplified CI Calculators, deemed complete dates, and trues ups.

**REVISITING THE TIER 1 SIMPLIFIED CI CALCULATOR**

As an RNG developer and operator, Amp uses CARB's Tier 1 Simplified CI Calculators<sup>1</sup> for our pathway applications and annual fuel pathway reporting. Amp supports updating the CI calculators that calculate biomethane CI to ensure consistency between pathways, to ensure CARB-approved changes are made across all projects, to reduce CARB staff's administrative burden for pathway approval times, to reduce delays in processing, and to increase simplicity and transparency of CI calculations. As CARB is aware, most dairy RNG applications are Tier 2, as the Tier 1 Simplified Calculator is not able to correctly model common operational developments. Below, please find some suggestions for updates:

- Report project-specific fugitive methane levels
- Add additional fuel emission factors for process fuels (e.g., propane, liquified natural gas, etc.)
- Provide a "virtual pipeline" framework for RNG trucking
- Add electricity as a final product selection in addition to CNG and LNG
- Update emissions factors (e.g. US Environmental Protection Agency [EPA] Emissions & Generation Resource Integrated Database [eGRID])
- Add additional solid separation technologies

Note, many of these updates are already being implemented by CARB on a case-by-case basis. By revising the calculators, CARB would simplify the pathway review process and create more transparency. In addition, Amp

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<sup>1</sup> <https://ww2.arb.ca.gov/resources/documents/lcfs-life-cycle-analysis-models-and-documentation>



supports adjusting Tier 1 Simplified Calculators for non-RNG fuels to facilitate the use of RNG as a source of process energy (in line with our recommendations about encouraging RNG use across all applications where conventional natural gas is currently used). Lastly, Amp supports the development of a hydrogen Tier 1 Simplified CI Calculator that allows for the use of RNG as a feedstock and/or processing fuel.

Amp supports CARB hosting a workshop specific to these issues to solicit input from all stakeholders.

### **DEEMED COMPLETE DATES**

Amp supports aligning the deemed complete dates between Tier 1 and Tier 2 Pathway Processes. Simplifying pathway processing steps will assist in reducing processing timeframes, in ensuring consistency across applications, and in tying the deemed complete date with the third-party verification (rather than the end of reporting quarter).

As of now, project developers are waiting up to a full year or longer, which impacts a pathway's ability to generate revenue. As the deemed complete date marks when a pathway application has satisfied all submission requirements, per the LCFS Regulation, it typically works as a timestamp when credit generation under the provisional CI can begin (assuming the pathway can be certified in the next quarter). Shifting the deemed complete date later in the timeline will add further uncertainty. Therefore, Amp would not support shifting of the deemed complete date for Tier 2 pathways unless the Tier 1 Simplified CI Calculators are significantly improved and some form of true up is also implemented as described below.

### **TRUE-UP CONCEPTS**

Amp supports the proposed credit true up between temporary CI and certified (e.g. provisional or non-provisional) CI values as proposed by CARB staff and recommends a credit true-up between verified operational CI and certified CI values. By allowing a true up between temporary CI and certified CI values, CARB would help alleviate concerns related to pathway process delays, assist in avoiding complicated storage agreements, provide reliable deliveries to fleets by avoiding buildup of stored gas inventory, allow more direct sales of RNG to smaller local fleets, and motivate additional project development.

In addition, Amp supports a true-up based on actual verified CI data rather than relying on the certified CI value. Dairy RNG projects produce small quantities of fuel compared to traditional refining processes and the CI can fluctuate significantly between years due to external factors such as temperature and herd count as well as operational changes outside the operator's control, such as improvements from startup and fugitive emission changes due to metering and mass balance calculations. If a pathway CI value increases, the current LCFS rules require automatic adjustments to be made based on the annual fuel pathway report (AFPR), to ensure that prior provisional and non-provisional pathways avoid over-generation of credits. We propose that the same occur annually for pathway CI values that lower progressively, to more accurately reflect the true benefits of that which may have been initially underestimated. Just as it is necessary to avoid over-counting CI credits, it is also necessary to avoid undercounting the actual GHG benefits of all pathways.

In the absence of a full program true-up, pathways will not only need to certify conservative provisional CI scores to avoid exceeding non-provisional CI values, but they will also be underrepresenting the overall GHG benefits of the LCFS program. As stated above, dairy RNG project CI values fluctuate significantly more than other non-RNG pathways due to their size and external factors, which could lead to a potential violation of the current regulation<sup>2</sup>. This automatically leads to credit invalidation, and underrepresents the overall GHG benefits, which is not in CARB's interest as the program is steered toward more ambitious targets in the forthcoming rulemaking.

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<sup>2</sup> See LCFS Regulation Section 95488.4(a).



The Oregon Department of Environmental Quality (ODEQ) Clean Fuel Standard (CFS) current rulemaking is considering adding a full true-up<sup>3</sup> as well. Amp supports CARB in implementing a similar true-up that would facilitate the ability to look backward at the CI details for fuel production facilities, rather than asking producers to commit prospectively to firm inputs during the CI application process. This would also allow CARB to eliminate the confusing “provisional” status for pathways.

Lastly, a full true up would incentivize all pathways to generate lower CI scores on a going forward basis and eliminate the burden of requiring a re-certification or adding to CARB staff’s administrative responsibilities. Hence, this would allow full accounting for the true GHG reductions, incentivize additional investments, and fairly demonstrate actual emission reductions created by the program.

## **CLOSING**

Amp supports additional LCFS workshops to further refine the rulemaking scope and to focus on RNG-specific issues. Specifically, Amp encourages additional discussion regarding the following LCFS topics: a broader use of RNG to replace fossil fuels in the manufacturing of transportation fuels (e.g., at liquid refineries to displace fossil fuels); the use of off-site renewable energy in the manufacturing of RNG; and carbon capture and sequestration outside of geologic sequestration.

Amp further supports the comment letters that the Coalition for Renewable Natural Gas (RNG Coalition) and American Biogas Council (ABC) have submitted regarding the LCFS Workshop.

Amp appreciates the opportunity to respond to the LCFS August 2022 Workshop and thanks CARB for its continued leadership in the program and globally.

Sincerely,

*Cassandra Farrant*

Cassandra Farrant  
Head of Environmental Credit Compliance  
Amp Americas

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<sup>3</sup> See Oregon Clean Fuels Program draft, pg. 168:  
<https://www.oregon.gov/deq/rulemaking/Documents/cfp2022pnp.pdf><https://www.oregon.gov/deq/rulemaking/Documents/cfp2022pnp.pdf>