



July 11, 2023

VIA ELECTRONIC FILING

Cheryl Laskowski
California Air Resources Board
1001 I Street
Sacramento, California 95814

Re: Maas Energy Works Public Comments on Draft Tier 1 Carbon Intensity Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure

Dear Dr. Laskowski:

Maas Energy Works (Maas) is North America's largest developer of dairy digester projects and one of the two major digester companies active in California. These facilities generate renewable natural gas (RNG) and electricity, purposed for use as carbon-negative vehicle fuel. Working with our partner families in the California dairy industry, Maas develops projects that support the California Air Resources Board's (CARB) long-term goal of greenhouse gas (GHG) emission reductions, protect local air and water quality, create local jobs, and provide a new revenue stream along with other meaningful benefits to the dairy.

Thank you for the opportunity to provide comments to CARB on the Draft Tier 1 Carbon Intensity (CI) Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure (Calculator), which proposed updates that would yield less need for Tier 2 modeling. Maas supports and is invested in partnering with CARB in its endeavor to streamline pathway processing.

Updates to the Proposed Calculator will Effectively Accomplish CARB's Goal of Reducing the Volume of Tier 2 Pathway Applications

To start, Maas recognizes the hard work and careful consideration CARB has dedicated to improving the current Tier 1 model. The proposed Calculator adequately addresses inputs that otherwise resulted in Tier 2 models: inclusion of propane as a process fuel, direct irrigation captured in the categorization of volatile solids (VS) removed prior to the effluent pond(s) in Section L4.6, the ability to select 12 or 24 months of baseline data versus manually updating the Avoided Emissions tab, updated cells C38 and G37 in the Avoided Emissions tab to accurately calculate avoided CO₂ emissions on a project-by-project basis, among others. These Calculator updates would greatly reduce the volume of Tier 2 pathways. The results are a simplified pathway review process for CARB, straightforward modeling guidelines for applicants, and shortened pathway processing time. The more pathways that can be processed in a timely manner, the quicker the industry can succeed in CARB's methane reduction goals.

Pathway Applicants Should be Allowed to Represent Fugitive Loss Accurate to Project Technology

The Calculator assumes a default fugitive methane level at the upgrading facility of 2%. Instead of providing a default, we urge CARB to consider allowing applicants a section to enter project-specific fugitive loss. That way, fugitive emissions are accurately modeled and producers are appropriately incentivized to reduce



methane leakage within Tier 1 status. With current membrane technology, fugitive loss less than 2% is achievable and thus digester operators should be encouraged to reduce their fugitive loss. A default of 2% means there is no CI benefit to operators attempting to reduce these losses. In summary, we recommend the Calculator use project-specific measured fugitive loss, or the calculator use a default of 1% instead of 2%.

Although Not Entirely Accurate, an Annual Lagoon Cleanout Simplifies Current Tier 2 Pathway Applications

CARB has addressed variability of lagoon cleanouts in baseline case scenarios in the Calculator by adding a default of one annual full system cleanout each September. This update will result in more positive CI scores for all dairy projects. Although an annual cleanout may not always be accurate to a dairy's operations, we also recognize the simplicity this adds to processing pathway applications.

An Annual Full Credit True-Up Should be Applied to Appropriately Depict Projects' Greenhouse Gas Reductions

In prior LCFS workshops, CARB has mentioned the idea of a Temporary pathway credit true-up. Maas asks CARB to revisit this idea, but go one step further and consider an annual credit true-up at verification. Predicting CI scores based off forecasted production is much more difficult than reviewing retroactive data. From weather-related events to temperature profiles, there are unexpected and uncontrollable circumstances that contribute to the difficulty in predicting CI scores. An annual credit true-up at verification based off actual data would provide the most correct depiction of a project's total methane reduction impact.

Proposed Calculator Implementation Timing and Applicability Should be Clarified so Pathway Applicants Can Begin Preparing for Implications Now

Considering each annual verification reviews project data from two years prior, it would be helpful for pathway applicants to understand CARB's implementation timeline of the proposed Calculator. For example, if CARB plans to implement the Calculator by 2025, it would be advantageous for applicants to know sooner rather than later so credits can be appropriately banked between years 2023-2024 according to any CI score shifts caused by modeling in the new Calculator.

Additionally, we ask CARB to allow pathways currently submitted and pathways currently validated to continue using the current Tier 1 model through the end of their crediting periods. These pathways have already undergone lengthy processing and rigorous review by both CARB and third-party verifiers. Causing these pathways to undergo a second validation would increase the applicant pool, which is counterintuitive to CARB's goal of expediting application processing time. Causing only a portion of projects to undergo a second validation would also provide unfair treatment to these projects, considering each project validated after proposed Calculator implementation would only be required to undergo one meticulous validation. We ask that the Calculator be effective from a certain date forward, and not to all projects retroactively. This approach would create the most simplified method of implementation.

If CARB were to decide against allowing pathways currently submitted and pathways currently validated to continue using the current Tier 1 model, then we ask that CARB define how or if a credit true-up would occur during switch from the current model to the proposed Calculator. Since the two are not identical models, how would any resulting change in CI score be verified as confidently accurate?



Conclusion

Overall, Maas supports the proposed Calculator. We believe the updates will suffice to notably reduce the volume of Tier 2 pathway applications. Streamlining the application process will not only simplify review for CARB and reduce processing time for applicants, but will provide confidence in investors to continue committing their efforts to the growth of the LCFS program. Creating a more encapsulating Tier 1 model creates a cascade of positive effects: refined manure management practices, improved biogas processing equipment technologies, and ultimately a carbon negative transportation sector.

We appreciate CARB's hard work devoted to improving the LCFS program. Thank you, again for your continued opportunity to comment on program developments.

Warmly,

Daryl Maas, CEO