CleanFuture, Inc.
P.O. Box 23813
Portland, OR 97281-3813
office: +1 503 427-1968
e-mail: john@CleanFuture.us

April 12, 2021

Mr. Richard Corey
Executive Officer
California Air Resources Board
Attn: Mr. Anil Prabhu
P.O. Box 2815
Sacramento, CA 95812

Submitted by Email to Anil.Prabhu@arb.ca.gov

RE: Response to Public Comment on Application B0148 Tier 2 Pathway: Low-CI Electricity

Dear Mr. Corey and Mr. Prabhu,

A comment was submitted during the public comment period for CleanFuture's Tier 2 Pathway for Low-CI Electricity sourced from Biogas released from Dairy Manure co-digested with milk waste for use as transportation fuel in electric vehicles in California. As authorized by §95488.7(d)(5)(A)(2), this letter provides a detailed written response to the Executive Officer explaining why no revisions to the pathway application are necessary.

Pursuant to§95488.7(d)(5)(A): "Only comments related to potential factual or methodological errors will require responses from the fuel pathway applicant." The comment letter raises multiple issues that do not relate to potential factual or methodological errors and these issues do not require a response. Nonetheless, several of these issues are addressed because the comments incorrectly suggest that the project is causing environmental harm when in fact the project is providing multiple benefits in terms of improved air quality and reductions in greenhouse gas ("GHG") emissions.

The text from the comment is quoted, with CleanFuture's responses to the various parts of the comment raised provided directly after the text.

Parts of the Comment and CleanFuture Responses

Subject: Tier 2 Application Comment, Application B0148

Comment (1):

"The applicants and/or the California Air Resources Control Board (CARB) withheld and redacted information regarding calculations related to GHG emission reduction such that it is impossible to determine the air quality and water quality impacts and the carbon intensity value."

CleanFuture Response (1): The LCFS regulation at 17 CCR §95488.8(c) specifies the process for a fuel pathway applicant to follow in the designation of confidential business information ("CBI"). CleanFuture followed this process in the development and submittal of this pathway application. While CBI has been redacted from the application as authorized by California law, the application still contains information sufficient to evaluate the underlying carbon intensity modeling. Furthermore, the full unredacted Application B0148 was reviewed and confirmed accurate by not only CARB Staff but also validated by a CARB accredited independent third-party verifier. The Staff Summary provides an overview of the pathway and the facility. The Staff Summary also provides a description of the Fuel Type Pathways at page 2-3, and contains operating conditions #7 and #8 that relate to carbon intensity, credit generation and validation issues. At page 5, the Staff Summary states, "Staff has reviewed the application and has replicated, using the Tier 2 modified version of the Simplified CI Calculator, the CI value calculated by the applicant. Agri-Waste Technology, Inc. (H3-20-002) submitted a positive validation statement."

In addition to the summary and description provided by the Staff Summary, the documents entitled "Pathway Description for Electricity from Biogas for Electric Vehicle Charging in California" and the "Modifications to Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure Applying to Generation of Electricity from Biomethane- Manure Component" provide explicit detail regarding the precise modeling used to calculate the carbon intensity value.

Comment (2):
"*CAFOs contribute to both local and regional environmental problems, including but not limited to: local air quality problems, discharge of nitrate to groundwater, and nutrient runoff that pollutes local streams and rivers. CARB must verify that each applicant is conforming with all mandated environmental requirements, and that the applicant is not polluting local air and water quality, prior to approving any application and must incorporate reporting procedures that ensure ongoing compliance with legal mandates.*"

CleanFuture Response (2): The LCFS requires certified pathways to operate in compliance with all established operating permits which the facility has been and will continue to do. The project is currently in compliance with all local, state, and federal laws; the project will remain in compliance; and the project will conform with the extensive reporting and record-keeping obligations that are imposed by the LCFS regulation. The commenter does not provide authority for the assertions contained in this comment with respect to incorporating reporting procedures. CleanFuture included in the pathway application: the Air Quality Permit to Operate and/or Construct issued to CSE Operating I, LLC by Maricopa County, Arizona revised 3/31/2015 and with an expiration date of 8/31/2020; the subsequent Air Quality Permit to Operate and/or Construct issued to CSE Operating I, LLC by Maricopa County, Arizona revised 08/18/2020 and with an expiration date of 8/31/2025; and the Letter of Maricopa County Planning and Development Department dated October 3, 2013, granting an Agricultural Exemption under LU20130068.

The commenter provides no factual evidence to support their claim that environmental issues with dairy CAFOs are unaddressed. Regarding GHG emissions, the comment completely ignores the fact that this project will directly reduce methane emissions. Methane is a short-lived climate pollutant ("SLCP") that is 25 time more harmful and potent than carbon dioxide. Capturing this harmful SLCP will have immediate impact on improving air quality and not contributing more harmful emissions as the commenter suggests. The UN Environmental Program and the World Meteorological Organization estimate that specific reductions in methane and black carbon emitting activities could save 2.4 million lives in the year 2030 alone.[1]

Regarding criteria pollutants, the renewable electricity procured from this project will be used to fuel electric vehicles in California which provide significant air quality benefits resulting from less gasoline and diesel consumption and elimination of tailpipe NOx and PM emissions.

Regarding water quality, as stated by Region 9 US EPA, dairy digesters provide a management method for manure that improves water quality, reduces methane emissions from manure lagoons and storage ponds, and minimizes odor.[2]

Comment (3):
"*The analysis fails to take into consideration the climate impacts of methane leaks, including the cataclysmic impacts of methane blowouts involving gas infrastructure that have taken place throughout the country*."

CleanFuture Response (3)- The project utilizes biogas for small scale power generation on site and does not present a risk of a cataclysmic impact from a methane blowout involving gas infrastructure. The commenter incorrectly applies an unsubstantiated claim regarding methane leaks from commercial pipeline gas infrastructure to this facility. Raw biogas produced from the anaerobic digestion of dairy manure in the digester is delivered to an onsite generator at the farm via a small system of pipe using compressors and blowers with no risk of cataclysmic blowout. A stringent level of methane monitoring and avoidance of fugitive methane emissions is required by Operating Condition #4 as stated by the Staff Summary at page 4, "Any quantity of biomethane metered as captured that cannot be demonstrated by meter records to have been destroyed, must be calculated by energy balance and accounted for in the CI as a fugitive methane emission if the calculated value exceeds the default 2% fugitive emission." The GREET model

[1] United Nations Environment Programme (UNEP), World Meteorological Organization (WMO) Integrated Assessment of Black Carbon and Tropospheric Ozone (2011), at https://www.ccacoalition.org/en/resources/integrated-assessment-black-carbon-and-tropospheric-ozone

[2] US EPA Region 9, "Organics: Anaerobic Digestion Benefits," at https://archive.epa.gov/region9/organics/web/html/benefits.html

submitted for this pathway accounts for any environmental impact of methane leakage from the project and does not provide this facility any crediting for vented or fugitive methane.

Comment (4):
"*This project and similar projects do not just undermine California's climate and environmental justice goals, but actually incentivize increased production of methane (and the concomitant pollution that accompanies methane production).*"
CleanFuture Response (4)- The commenter is incorrect that this project undermines California's environmental justice goals. In fact, this project and other similar projects voluntarily capture and beneficially utilize methane produced by traditional, legal, regulated manure handling practice. Without the good and diligent work of CARB and project developers, the status quo would continue and result in steady or increased methane emissions from the dairy sector resulting in perpetually poor air quality in the most vulnerable communities.

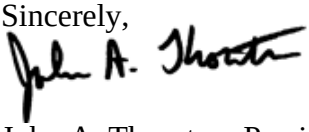
Through projects like these, not only is methane voluntarily captured at the dairy farm, but the methane is converted into renewable electricity for use as a transportation fuel in California which reduces California's dependence on fossil fuels. The Commenter does not seem to appreciate that this project is the result of the deliberate policy of the California Legislature through the passage of SB 1383, and CARB's implementation of SB 1383 which involved years of constructive public outreach and engagement. This landmark piece of legislation focuses on the need to reduce emissions from the dairy sector as a whole. Although we recognize that digester projects are not the only solution, the fact that other solutions are available does not negate the large environmental benefit this project and other digester projects bring. Furthermore, use of liquid manure management and digesters is the only mitigation strategy that not only reduces dairy methane emissions, but also produces a renewable transportation fuel capable of reducing fossil fuel demand.

Finally, the Commenter states that the certification of this pathway will incentivize methane production. This is not true and reveals a lack of appreciation of the requirements of the LCFS program. The amount of crediting given to a project for reducing methane emissions is capped at a level based on the facility's baseline emissions. As determined in CARB's Livestock Offset Protocol and implemented into the LCFS, a facility's baseline methane emissions are the upper bound limit on methane reduction as determined using a quantification method calculating methane emissions from the manure management system in place prior to the installation of the biogas collection system ("BCS"). The baseline methane calculation is meant to represent a business-as-usual scenario to quantify methane emissions in the absence of the project. No crediting is given for any methane produced above this threshold which means that there is no incentive for methane production but rather an incentive to reduce current methane emissions.

Conclusion

This concludes CleanFuture's detailed responses to all comments pertaining to factual or methodological errors in the pathway application. CleanFuture requests that the Executive Officer certify the pathway pursuant to §95488.7(d)(5)(B). Thank you for the opportunity to respond to comments on the pathway application.

Sincerely,



John A. Thornton, President
CleanFuture, Inc.