



Helping dairies fuel a renewable future

324 S. Santa Fe, Suite B

Visalia, CA 93292

559-667-9560

June 29, 2020

California Air Resources Board
Low Carbon Fuel Standard
1001 I Street
Sacramento, CA 95814

Re: Tier 2 Pathway Application: Application No. B0059; Response to Association of Irrigated Residents, Central California Asthma Collaborative, Food and Water Watch, and Leadership Counsel for Justice and Accountability

California Bioenergy LLC (“CalBio”) writes on behalf of ABEC Bidart-Old River LLC (“the project”) to provide responses to the comments received in a letter dated June 25th 2020 regarding the Tier 2 Pathway Application (No. B0059) Low-CI electricity from dairy manure biogas using two 1MW reciprocating engines at ABEC Bidart-Old River in Bakersfield, California for use as transportation fuel in California. CalBio is responding within the scope of the Low Carbon Fuel Standard (“LCFS”) program as per § 95488.7(d)(5)(A) which requires responses to comments “related to potential factual or methodological errors”.

CalBio appreciates the comments and is committed to full and accurate accounting of lifecycle emissions associated with the pathway application. CalBio commends the California Air Resources Board (“CARB”) in its development of the Livestock Compliance Offset Protocol (“Protocol”) and Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure (“CI Calculator”) which have been vetted through public processes to ensure Greenhouse Gas (“GHG”) emission reductions are achieved beyond a business-as-usual baseline.

The coalition of groups submitting comments contends that the application should be rejected for four primary reasons: (1) information and data included in the application and relied upon for approval is labeled “confidential” such that an independent review of the proponent’s claims and the accuracy of calculations and impacts is impossible; (2) The project will increase air pollution and threatens water quality in the locality and region, thus undermining the state’s climate, environmental justice, and equity goals; (3) It appears that the GHG calculations ignore the GHG emissions from the production and management of methane on dairies; and (4) this project will actually incentivize the production of methane.

CalBio does not believe these claims to be accurate and has developed the project entirely within the framework established by CARB to develop low carbon fuels in the transportation sector. In addition to reducing GHGs, this project generates renewable electricity, improves local air quality, adds to groundwater protection, and creates local job opportunities.

(1) information and data included in the application and relied upon for approval is labeled “confidential” such that an independent review of the proponent’s claims and the accuracy of calculations and impacts is impossible

CalBio provided all required information required by the LCFS regulation in its full un-redacted pathway application to CARB. All redacted information in the publicly posted application package contains competitive trade secret information and is considered Confidential Business Information which is protected from public disclosure under California Government Code 6254.7. CARB Staff reviewed the submission package and deemed the application complete. CalBio subsequently engaged with an independent accredited third-party to perform a validation which included a site visit and review of all site-specific inputs used to determine a carbon intensity (“CI”) score. The verification body conducted a conflict of interest review which was reviewed by CARB to ensure impartiality in the validation process. Following a successful validation and submission of the validation statement, CARB then performed an engineering review which includes an evaluation of inputs into the CA-GREET3.0 model and replication of the carbon intensity calculations.

(a) The applicants and/or the California Air Resources Control Board (CARB) withheld and redacted information regarding both dairy operations (including herd size and amount of manure managed) and energy generation (including biogas conditioning, and kilowatts produced)

The ARB staff summary provides the approximate number of animals on the farm, manure collection rates and utilization, as well as details on mechanical separation, engine specifics, parasitic load, lagoon cleanout frequency, and biogas conditioning system.

(2) The project will increase air pollution and threatens water quality in the locality and region, thus undermining the state’s climate, environmental justice, and equity goals

This statement is incorrect. The project mitigates the emissions of methane, a harmful greenhouse gas with a global warming potential 25 times worse than carbon dioxide, by capturing this gas that would otherwise be vented into the atmosphere, for the beneficial use of generating electricity which is then used to charge electric vehicles. In addition to capturing and destroying GHGs, this project results in reductions of NOx, PM, SOx, and VOCs according to the Dairy Digester Emission Matrix¹ for digesters utilizing its gas in an Onsite Reciprocating Engine to Grid and EVs. These assumptions were developed by the Dairy and Livestock Subgroup #2, a coalition of stakeholders brought together to discuss environmental policies to achieve a sustainable model for the dairy and livestock industry. Further, the project built a double-lined, Tier 1 lagoon digester, permitted by the Regional Water Board. As a result of the

¹ <https://ww2.arb.ca.gov/sites/default/files/classic/cc/dairy/dsg2/dairy-emissions-matrix-113018.pdf>

double-lined lagoon, and the decrease time manure is kept in unlined lagoons, the project enhances groundwater protection.

(a) Additionally, studies find that manure exiting a digester emits as much as 81% more ammonia than raw manure.

The study referenced in this statement has not been replicated and refers to a mixed, heated and mesophilic plug-flow style digester in Wisconsin which separates manure solids post-digestion in contrast to the project which is California-based and has a covered, ambient temperature lagoon digester which separates solids prior to digestion. Given these differences in technology, climate, and manure management systems and the fact that some ammonia will be captured and removed by the digester's biogas upgrading and conditioning systems², it is inappropriate to assume the project will result in additional NH₃ emissions.

(b) The handling of the digestate is not addressed. It may be assumed the digestate goes into an effluent pond and is eventually used for irrigation of crops but without access to the pertinent information, which is redacted, it is impossible to know for sure.

The handling of the digestate is addressed in the LCA report.

(c) Flaring is not discussed adequately. How much annual flaring is expected and what are the expected GHG and air quality emissions? Why is the flare not required to be enclosed to maximize emission reductions? How do carbon intensity calculations take flaring into consideration?

There is no flare at this dairy.

(d) Digesters encourage both the production of more manure and practices to facilitate digester efficiency to maximize methane collection. Digesters, like the digester at issue in this application, rely on manufactured, liquefied manure that is so deleterious to the environment and nearby communities to generate profits through energy production. To what extent will this project exacerbate the degradation of already very polluted water?

The presence of the digester does not result in the production of any additional manure. There are no new sources of manure or other waste stream that would result in additional methane production that would otherwise occur. Furthermore, the pre-existing earthen ponds were replaced with a double-lined covered lagoon digester which is the best available control technology to prevent groundwater contamination. This is an improvement relative to common practice in the region where manure is stored in earthen lagoons and applied to the surrounding cropland. One of the many benefits of anaerobic digestion is the post-digested effluent converts nutrients into a more usable form for crops thus reducing demand for synthetic fertilizer.

² <https://ww2.arb.ca.gov/sites/default/files/classic/cc/dairy/dsg2/dairy-emissions-matrix-113018.pdf>

(3) It appears that the GHG calculations ignore the GHG emissions from the production and management of methane on dairies

This statement is false. The purpose of the LCFS pathway application is to calculate the methane emissions that would have occurred in the absence of the digester project. Projects are conservatively credited only for methane that is avoided, not necessarily the amount of methane that is produced.

(a) Similarly, the calculation of GHG emissions and alleged reductions ignore the GHG emissions of manure production. The GHG emissions from the dairy—including methane released from manure, enteric emissions, and other dairy operations—are not regulated. Therefore, these emissions must be calculated and applied to the lifecycle GHG analysis for this project. The Well-To-Tank fuel cycle analysis begins only at the point of capturing the methane. It must begin instead with all inputs for operation of the dairy.

The GHG assessment boundary of the project is defined in Chapter 4 of the Compliance Livestock Offset Protocol which delineates the Sinks, Sources, and Reservoirs (“SSRs”) that must be included or excluded when quantifying the net change in emissions associated with the installation and operation of the capture and destruction of methane. It is precisely the fact that methane emissions from dairy operations are not regulated which ensure that methane reductions are additional – an essential GHG accounting principle which ensures that a project or activity that reduces GHGs goes beyond regulatory requirements in force and would not have happened in the absence of a market incentivizing the GHG reductions. The commenters incorrectly state that the lifecycle analysis begins only at the point of capturing the methane. The analysis does indeed go back to the baseline manure management practices at the dairy.

(b) Manure is neither a waste product nor an inevitability. The assumption in this application and analysis erroneously assumes both. Carbon intensity calculations in the application begin with the wastewater - and, moreover the immense quantity of the wastewater – as if it came out of nowhere and its existence represents the unavoidable status quo.

Manure is an inevitable output from a dairy whose purpose is to produce widely consumed goods such as milk, butter, yogurt, ice cream, and more. As discussed elsewhere, the project advances wastewater management relative to the baseline with the double-lined lagoon digester which increases the portion of nitrogen available for uptake in a more plant absorbable form. The wastewater, in addition to being used as a fertilizer for the crops, is also fully used for irrigation.

(c) This Bidart Dairy seems to have many photo-voltaic panels. Because of the inadequate information we cannot know for sure, but we assume the panels are also on a net-metering program along with the electricity produced from the biogas. How is the electricity separated from these two sources between what is used by the dairy and what is exported to the grid?

The Bidart Dairy installed the photo-voltaic solar array independent of the digester biogas-to-electricity system contemplated in the LCFS pathway application. 100% of the net electricity derived from the biogas system is exported and is not net metered to the dairy. The solar electricity serves to offset grid electricity that would otherwise be purchased by the dairy. The solar field is not claimed as a benefit in the LCFS pathway application. In addition to the digester, this is yet another example of the dairy's commitment to lower its environmental footprint and make investments toward a sustainable future.

(4) this project will actually incentivize the production of methane

(a) To the extent that dairies are making manure and waste management decisions to increase methane production – such as increasing herd size to increase manure production, opting out of solid separation to increase methane, taking in food wastes for digestion, and even opting for liquefied manure management instead of methods that prevent production of methane in the first place – California Bioenergy LLC and ABEC Bidart-Old River Dairy should not reap the benefits of the LFCS program, designed to reduce greenhouse gases, instead of incentivizing the production thereof.

The project has not taken any action which would cause more methane to be produced compared to the baseline scenario. Dairies manage their herds based on demand for their product, not for gas production. Additionally, no food or other waste products have been added to the digester. In fact, CARB has designed the program such that the project is credited for how much methane is avoided rather than on how much methane is produced. As discussed above, crediting for the voluntary capture of methane is limited to the project's baseline emissions – methane that would have otherwise been vented to atmosphere in the absence of such a project.

Sincerely,



Andrew Craig
Director of Greenhouse Gas Reduction Initiatives