



June 26, 2020

California Air Resources Board
1001 I Street,
Sacramento, CA 95814

Re: Tier 2 Pathway Application: Application No. B0098; Calgren Dairy Fuels plus Circle A, Robert Vander Eyk, Legacy Ranch, Cornerstone, Sousa and Sousa, and Vander Poel Dairies

To Whom It May Concern,

Association of Irrigated Residents, Central California Asthma Collaborative, Food and Water Watch, and Leadership Counsel for Justice and Accountability write in opposition to the dairy waste to energy project proposed by Calgren Dairy Fuels for California Dairy Manure Biogas, booked as negative carbon vehicle fuel, for four primary reasons: (1) information and data included in the application and relied upon for approval is redacted 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.

Lack of Available Information and Data Transparency

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) such that it is impossible to determine both the air quality and water quality impacts that the project will produce, as well as the energy conversion and energy production rates which, along with information regarding dairy operations, is necessary to

assess the veracity of the claimed project benefits and the carbon intensity value. In short, based on the public's review of the available documents, there is no way to comment in any informed way on the proposed project or assess the accuracy and value of the justification presented. In the CA-GREET3.0 Model in Support of Application there are more than 100 critical data entries (a majority) that are either labeled "confidential" or do not give values but simply state where values may be found in a missing spreadsheet.

The exclusion of this information defeats the most important aspect of opening a proposed certification for public comment. CARB's regulation on the Tier 2 Fuel Pathway Application Requirements and Certification Process specifically and distinctly separates comments related to factual and methodological errors from other comments and denotes them as the most important. It does this by declaring that "[o]nly comments related to potential factual or methodological errors will require responses from the fuel pathway applicant." Cal. Code Regs. tit. 17, § 95488.7(d)(5)(A) (2020). Without access to the data underlying the calculations, it is impossible for commenters to accurately assess the facts and methodology relied on by the applicant. Therefore, no access to information means no proper review by commenters, and thus the most important aspect of public comment is rendered impossible.

The materials available for review also leave out critical information regarding the demand for biogas for vehicles, taking into consideration other sources such as fossil natural gas and clean, renewable energy sources.

Additionally, the applicants and/or CARB withheld the following information, alleging that they contain confidential business information: Attestation Letter, Utilities Invoices and Electricity Bills, Facility Process Flow Diagram, and Monthly Data and Calculation for GREET Input Values.

One example that demonstrates the lack of information to support the applicant's and CARB's conclusions is the significantly higher carbon intensity of Legacy Dairy as compared to the five other dairies. There is no data explaining this differential. This is potentially the type of factual and/or methodological error that CARB's regulations highlight as the most significant aspect of public review and comment. Without access to the underlying data, it is impossible to accurately assess this differential in carbon intensity.

Without access to data critical to allow an independent analysis of truly monumental carbon intensity values or environmental and ecological impacts of the proposed project, the application must not be approved.

Air and Water Quality Impacts

This project will threaten environmental degradation in the local community and throughout the region by increasing air pollution and groundwater contamination. This project, by generating methane for fuel which will be combusted in vehicles, will create NOx. Some of those vehicles will likely be operating in the San Joaquin Valley. Furthermore, due to the lack of information in the application and supporting paperwork, it is impossible

to understand the scope and severity of the air quality impacts of this project. NO_x is key to ozone formation in the warm months and similarly catalytic in the formation of PM_{2.5} in the cooler months.

Reducing NO_x emissions in the San Joaquin Valley is key to the Valley reaching compliance with the federal clean air standards and protecting the health of the region. Additionally, studies find that manure exiting a digester emits as much as 81% more ammonia than raw manure.¹ Increased ammonia together with increases in NO_x creates an even more intensive ammonium nitrate PM 2.5 impact.

The handling of the digestate is not addressed. It is stated the digestate goes into storage lagoons and is eventually used for fertilization of crops via irrigation. Are these storage lagoons ever aerated with the floating paddle machines seen on many manure lagoons? The emissions from any digestate ponds and any other liquified manure ponds must be fully disclosed and considered. This includes all ammonia emissions, methane emissions, and nitrous oxide emissions (N₂O). Any GHG emissions from these ponds must be calculated and applied to increase the carbon intensity calculations.

Calgren produces elemental sulfur from the process of cleaning the biogas which is used by participating dairies as a soil amendment (or fertilizer). This statement needs clarification in terms of total pounds of sulfur produced per year and how many acres are available for its use. Sulfur can be a valuable soil amendment but over application of sulfur can degrade both land and groundwater, so this is a critical factor left out of the application. Also, as a valuable by-product of the digested manure, some of the so-called negative carbon intensity of the biogas must be assigned to this sulfur product in the well-to-tank analysis.

The applicant and CARB must disclose the total miles of private pipeline to get the biogas from these scattered dairies to the Calgren Hub. Potential leaks of methane along these pipelines needs to be calculated. Given that the pressure is very low (5 psig) in these pipelines, how will leaks be detected and how frequently will leak inspections take place? How are methane leaks considered in the calculation of carbon intensity?

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? These questions are left unanswered, making it impossible for the public to adequately assess this application and comment on the applicant's impacts on local air quality and community well-being.

Furthermore, avoiding the liquification of the manure at these dairies in the first place would avoid most of the methane emissions the applicant purports to be capturing, and would also avoid the need for flaring.

¹ Michael A. Holly et al, *Greenhouse Gas and Ammonia Emissions from Digested and Separated Dairy Manure During Storage and After Land Application*, 239 *AGRICULTURE, ECOSYSTEMS & ENV.* 410 (Feb. 2017), <https://www.sciencedirect.com/science/article/pii/S0167880917300701>.

This project conflicts with the language of AB32—which, in summary, says that efforts to reduce GHG emissions should not compromise or conflict with efforts to reduce air pollution—because it will worsen local air quality in an area already struggling with poor air quality that disproportionately burdens certain communities. Additionally, this project and similar projects undermine the state’s efforts to make truly clean, zero emission vehicles and trucks available to the public. We have access – and can increase access – to zero emission electricity sources, including wind and solar for electric vehicles. There is simply no need to generate polluting biogas when other options are available and expanding.

Large scale dairies are a primary contributor to groundwater pollution, causing drinking water contamination. This is a crisis communities throughout the Central Valley are facing. Cow manure, and in particular liquefied manure applied to cropland, contributes a majority of the nitrate contamination in groundwater under and around dairies, which impacts the health and economic well-being of residents and communities in nearby towns and cities. Digesters encourage 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?

Accordingly, this project threatens the local community and the region by increasing air pollution and groundwater contamination. Due to the redacted information, it is impossible to know the extent of these harms. Regardless, it is imperative that these harms be factored more directly into the analysis of this pathway, and they are sufficient to reject this project. This project will increase NOx, ammonia, and PM 2.5. It will also increase groundwater contamination. Additionally, the lack of information about flaring makes a complete analysis of its harms impossible and the project is not taking simple, common sense steps such as enclosing the flare to reduce emissions. Moreover, all of these harms are gratuitous and conflict with AB 32. Rather than fund projects that will cause air pollution, funds should go to zero emission sources such as wind and solar for electric power. In conclusion, this project harms the local community’s air and water and should not be approved because other projects that do not cause those harms exist and should be incentivized to the fullest extent possible.

Incomplete GHG Analysis

Similarly, the calculation of GHG emissions and alleged reductions ignore the GHG emissions of the dairy as a whole. 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.

Manure is neither a waste product nor an inevitably. The assumption in this application and analysis erroneously assumes both. Carbon intensity calculations in the application begin with the waste water - and, moreover the immense quantity of the wastewater - as if it came out of nowhere and its existence represents the unavoidable status quo. This assumption creates a false reality wherein off-gassing from massive amounts of liquified manure is the only alternative to digestion. An operator who deliberately creates a problem should not then benefit for mitigating a portion of the harmful effects caused by that original sin.

Manure can be valuable; it is not a waste product. The nutrients in manure such as nitrogen and potassium, plus the carbon and fiber, are all valuable and necessary in the production of agricultural crops and must be recycled and responsibly managed if we are to have a zero-carbon energy future. These nutrients are purchased - often imported - and used by the agricultural industry in large quantities. Therefore, it is incorrect to call this manure a waste product and consequently avoid looking at the inputs from its production. The carbon intensity calculations for the biogas must include the required full life-cycle assessment analysis as required under the Low Carbon Fuel Standard.

The carbon intensity of the biogas from the Legacy Ranch Dairy is significantly higher than the biogas from the other five dairies. It is about 53% of the average negative CI of the other five (-192 compared to -360). There is no direct discussion of why this is the case. Too many numbers are redacted to see where the difference arises in the CI worksheets. Calgren must be required to explain what operating features of the Legacy Ranch Dairy require its biogas to have a supposed higher carbon intensity than the other five dairies.

The calculation of the CI leaves out some factors related to the Calgren Ethanol Plant and its use of some of the biogas. What effect does the use of this biogas have on the CI of the ethanol produced by Calgren as a vehicle fuel? How is the carbon value of the Distillers grain which is likely fed, in part, to cows at these six dairies, calculated as a negative to the CI of the ethanol product and then not calculated as a positive to the methane from the manure at these six dairies? Calgren must explain how this is not double counting a carbon benefit to Calgren and these dairies.

As discussed throughout these comments, the application does not provide an adequate description of GHG emission reductions as it fails to include critical data, and fails to consider the full scope of GHG emissions related to biogas production and distribution.

Incentivized Production of Methane

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). 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 liquified manure management instead of methods that prevent production of methane

in the first place – Calgren Dairy Fuels and these six dairies should not reap the benefits of the LFCS program, designed to reduce greenhouse gases, because these projects instead incentivize the production thereof.

Incentivized continuation of fossil fuel natural gas infrastructure

This project also keeps fossil fuel natural gas running through pipelines throughout California. It is stated the biogas will be injected into the SoCal Gas pipeline system and delivered to UPS vehicles as far away as 231 miles. How many methane leaks are in this pipeline system? Every one of those leaks should be attributed to these dairy biogas projects because these digester projects are fast becoming the only reason these pipelines need to exist in the future. Because these projects help SoCal Gas to meet their Cap and Trade targets and LCFS targets, they have an excuse to keep supplying fossil fuel natural gas to their current markets, which California acknowledges needs to be reduced. Dairy biogas and other renewable gas products will never get close to meeting the current level of natural gas used in California. By mixing dairy biogas into this fossil fuel gas system of pipelines, these projects prolong the use of fossil fuel natural gas in California and hinder California's ability to meet both short and long term GHG emission reduction goals. California should not be incentivizing the use of fossil fuel natural gas or dirty natural gas infrastructure.

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In conclusion, this project should be denied because it will harm local air quality, threaten water quality, and fails to consider the full lifecycle emissions of methane production from dairies. Any community benefit falsely claimed by this project is more than offset by local negative impacts to the environmental justice communities of Pixley, Tipton, Earlimart, Alpaugh and Allensworth which surround this project. Furthermore, there is inadequate data to determine the extent to which the project will reduce greenhouse gas emissions and fails to take into consideration how the project will incentivize production and emission of greenhouse gases. Unless and until there is publicly available and verifiable data demonstrating that this project will not produce negative local air and water impacts, and the extent to which this project will actually reduce greenhouse gas emissions that could not otherwise be reduced, CARB must deny this application.

Sincerely,

Julia Jordan, Leadership Counsel for Justice and Accountability
Tom Frantz, Association of Irrigated Residents
Kevin Hamilton, Central California Asthma Collaborative
Tyler Lobdell, Food and Water Watch
Nayamin Martinez, Central California Environmental Justice Network
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