- **To:** Fangjun Kong Air Resources Engineer, California Air Resources Board
- From: Craig Palleschi

VP RNG Operations, WOF SW GGP 1, LLC

- Re: Response to Comment in Opposition to Tier 2 Pathway Application B0698
- Date: March 25, 2025

Dear Fangjun,

Per the process described in \$95488.7(d)(5)(A)¹, WOF SW GGP, LLC ("WOF") is providing this written response to the comment received from the Leadership Counsel for Justice & Accountability, Central Valley Defenders of Clean Water & Air, Food & Water Watch, and Animal Legal Defense Fund ("Commentors") during the 10-day public comment period for the Tier 2 Fuel Pathway Application No. B0698 ("Application").

The comment submitted in opposition to Tier 2 Pathway Application No. B0698 raises important concerns about the role of biomethane from dairy manure in the Low Carbon Fuel Standard ("LCFS") program. However, its core arguments reflect a misunderstanding of both the regulatory structure and the intent and limitations of the LCFS program. The program does not exist to reengineer agricultural systems—it exists to reduce emissions from transportation fuels. This application follows established, rigorous regulatory guidelines and contributes to the overarching goal of combatting the climate crisis. Below, the five arguments made by the Commentors are addressed.

WOF does not believe that any revisions are necessary to the Application. We appreciate the opportunity to seek and respond to public oversight and request that the California Air Resources Board ("CARB") certify the Application.

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Craig Palleschi VP RNG Operations WOF SW GGP 1 LLC

¹ https://ww2.arb.ca.gov/resources/documents/lcfs-pathways-requiring-public-comments?keywords=2025

1. Inaccurate and Unlawful System Boundary

The Commentors argue that the emissions analysis for this application is incomplete, suggesting that it should include upstream factors such as feed production, enteric fermentation, and energy use at dairy operations. But this critique misunderstands the scope of lifecycle analysis (("LCA)") under the LCFS. The program evaluates the carbon intensity (CI) difference between the fuel production pathway and the baseline operating scenario, not the entire agricultural supply chain². The Application CI accounts for digestate storage emissions in both the production pathway and baseline operating scenario, and WOF is financially incentivized to minimize volatile solids in digestate by efficiently operating the project[®] anaerobic digesters. The Application verifies that -- based on operational data and best modelling practices -- methane emissions are reduced compared to the baseline operating scenario, not whether the Application eliminates all emissions associated with dairy production.

Manure management is an unavoidable reality of large-scale dairy farming. When left untreated, manure stored in anaerobic lagoons emits methane³. By capturing and converting this methane into a usable fuel, this project prevents those potent greenhouse gas emissions from entering the atmosphere and delivers decarbonization co-benefits in hard to electrify industries, like heavy duty trucking. The Application and, more broadly, the LCFS program appropriately focus on minimizing the severe climate impact of large-scale, confined animal feeding operations.

2. Additionality and Overstated Environmental Benefits

The Commentors assert that the emissions reductions claimed in this application are not truly additional because WOF also claims environmental attributes for produced biomethane in the Renewable Fuel Standard (RFS). WOF has provided all required documentation to CARB staff and undergone rigorous validation by a certified, third-party verification body to ensure compliance with the LCFS Rules⁴ – which include strict mechanisms to prevent double counting and ensure that credits issued under the LCFS reflect real, incremental emission reductions. Without LCFS credits, many dairy-methane capture projects, which are urgently needed to reduce methane emissions in the short term, would not be financially viable.

3. Factory Farm Expansion and Market Distortions

² https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/ca-greet/tier1-dsmim.pdf?_ga=2.181590945.785971439.1742924857-696401139.1742831132

³ https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2017

⁴ https://ww2.arb.ca.gov/sites/default/files/2020-07/2020_lcfs_fro_oal-approved_unofficial_06302020.pdf

The Commentors claim that the combined expansion of herds at Zinke Dairy and Shamrock Dairy by ~13,800 cows are encouraged by the LCFS program. While increasing the population of livestock increases the environmental burden in terms of water, land, and energy resource demand, this claim is incorrect. The growth of industrial dairy operations predates the LCFS by decades, driven by global demand, industry consolidation, and agricultural policy—not California[®] carbon market. The LCFS does not reward herd expansion; it rewards methane capture from existing operations. The assumption that dairies are expanding specifically to profit from biomethane credits is not supported by evidence. Without digesters, these same farms would continue producing methane without any mechanism to reduce or capture it.

4. Transparency and Redacted Data

The Commentors raised concerns about transparency, arguing that key documents contain redacted information, making it difficult for stakeholders to fully assess the application. Specifically, that the addition of CNG trucking to four new dairies "is a seemingly more carbon intensive fuel pathway".

Although the initial application (B0308) reported a CI of -362.84 g CO_2e/MJ , the CI has decreased each year due to improvements in process efficiency, such as reduced fugitive emissions, as documented in the annual fuel pathway reports to CARB.

Fugitive emissions have been significantly reduced over the course of the project. During the initial application (B0308) with three farms, fugitive emissions were 123.16 g CO_2e/MJ . With the new pathway (B0698) incorporating seven farms, they have dropped to 11.08 g CO_2e/MJ , reflecting substantial improvements in emissions control. Additionally, biomethane flaring has also been reduced.

Moreover, the new pathway (B0698), which includes seven farms, benefits from the scaling factor. The energy demand for the digester and upgrader does not increase linearly with production. As a result, the energy consumption per unit of RNG produced has decreased, leading to a lower CI.

Overall, the CI reduction achieved through process efficiency improvements and scaling factors outweighs the CI increase from CNG combustion used for manure trucking from remote farms as shown in the submitted calculator to CARB. Table 1 shows the comparison of CI breakdown between the previous (B0308) and new pathway (B0698) for more clarity.

Stage of life-cycle	Previous Application(B0308) (with three farms)	New Application (B0698) (with seven farms)
Manure handling*	2.22	7.89
Digester Biogas Upgrading	221.29	73.10
Transmission	3.33	3.33
Compression	3.50	3.50
Tailpipe	60.73	60.73
Avoided emissions credits	-653.91	-516.33
Total	-362.84	-367.79

Table 1. CI (gCO₂e/MJ) comparison between previous (B0308) and new application (B0698)

*Includes manure transportation

5. Environmental Justice and Pollution Offsets

The Commentors argue that inflated CI credits from the Application 1) enable polluting deficit holders to perpetuate environmental injustice by burning fossil fuels in California and 2) perpetuate factory farming practices in Arizona that use vast amounts of power, water, and cause local harm to environmental and public health. While this critique reflects a broader and thoughtful skepticism toward market-based climate policies, it does not point to any specific failure of this application.

WOF has cooperated with CARB in every step of the process and as discussed earlier, demonstrated compliance with the application and verification process. The modelled CI of the application reflects verified operational data and best-practice assumptions. RNG trucks are the best available alternative to replace the oldest, most polluting heavy-duty diesel trucks in operation⁵. This Application represents one of many low hanging fruits needed to rapidly decarbonize the transportation sector. There is no credible claim to revise this application on process, factual, or methodological errors. Efforts to delay this application to reform the dairy industry and address structural challenges that perpetuate inequality are fundamentally misplaced.

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⁵ https://energy-vision.org/pdf/ditching-diesel.pdf