



June 2, 2026

Re: Tier 2 Pathway Application No. B0858

Dear Chair Sanchez:

Defensores del Valle Central para el Aire y Agua Limpio, Leadership Counsel for Justice & Accountability, Food & Water Watch, and Animal Legal Defense Fund (collectively, “Commenters”) write in opposition to California Bioenergy LLC’s Tier 2 pathway application. This application proposes an astonishingly low carbon intensity (CI) score of **-1,887.35**—by far the lowest and most extreme CI for any pathway in the history of the Low Carbon Fuel Standard.<sup>1</sup> By proposing this absurdly low CI, this application shows that factory farms and factory farm biogas developers are intensifying their exploitation of the perverse incentives for methane production in the LCFS.

As Commenters explain below in further detail, CARB’s use of avoided methane crediting in the LCFS rewards factory farms for intentionally creating methane by choosing liquid manure management systems instead of other systems that do not create massive quantities of methane. It also rewards factory farms for expanding and consolidating, which further increases liquid manure management and enteric methane emissions—undermining the integrity of the LCFS and CARB’s ability to reduce climate pollution and improve air quality. The source factory farm—Bar 20 in Fresno County—is already one of the largest mega dairy factory farms in California. CARB should not further incentivize its growth with this pathway.

---

<sup>1</sup> LCFS Pathways Certified Carbon Intensities, CARB, <https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities> (last visited May 29, 2026) (as reflected in the Certified Fuel Pathway Table spreadsheet).

While this application is the most extreme in the history of the LCFS, previous factory farm biogas CIs are also extreme. The next lowest CI, which is -790.41, is for California Bioenergy LLC's associated factory farm biogas to electricity project.<sup>2</sup> California Bioenergy LLC maneuvers in this instant application to try to piggyback off of the extreme negative CI from that previous factory farm biogas pathway to claim the record-low proposed CI in this application. This historically negative CI is indefensible, as this project would combust factory farm biogas produced from intentionally created factory farm manure methane in a reciprocating engine to produce electricity, which would then be used to produce dirty hydrogen.

This application also highlights the danger of CARB encouraging the use of factory farm biogas to greenwash hydrogen production. Certifying such an extreme, record-breaking CI for dirty hydrogen will undermine the potential of green hydrogen produced with truly renewable sources of electricity. Producing electricity in a reciprocating engine is not clean and risks adding more air pollution into the local community.

Other types of pathways further reveal the absurdity of factory farm biogas CIs. The lowest CI that is not associated with a factory farm biogas project is -101.05, and that is for a landfill biogas project.<sup>3</sup> Landfill biogas projects generally have much higher CIs than factory farm biogas projects, even though both types of projects create the same methane product. This is because, unlike factory farms, landfills are subject to regulatory requirements for methane mitigation and therefore are not lavished with avoided methane crediting.<sup>4</sup>

As Commenters have explained many times over the years in numerous comments and petitions for rulemaking,<sup>5</sup> CARB's treatment of factory farm biogas under the LCFS is flawed and unjustifiable. The record-low proposed CI value for this application is the consequence of CARB's perverse policy choice to prop up smoke-and-mirrors accounting for factory farm biogas. CARB cannot certify this application—especially now that it has directed the Executive Officer in Resolution 24-14 to “prepare a plan for initiating, developing, proposing, and implementing a livestock methane regulation[.]”<sup>6</sup> CARB must regulate the Bar 20 mega dairy factory farm—not reward it with lavish LCFS credits for intentionally producing methane and polluting the environmental justice community it occupies.

This pathway application further reflects CARB's unlawful administration of the LCFS and is riddled with methodological and factual errors that preclude CARB from certifying it.

---

<sup>2</sup> The associated Tier 2 pathway application is B0490. Commenters also opposed that application and incorporate those comments as though fully set forth in these instant comments.

<sup>3</sup> See Tier 2 Application B0724, <https://perma.cc/YLX8-JG5V> (last visited June 2, 2026).

<sup>4</sup> See *id.* (Tier 2 LCFS Life Cycle Analysis Report for Renewable Electricity Generated from Landfill Gas at the Yolo County Central Landfill).

<sup>5</sup> Petition for Rulemaking to Exclude All Fuels Derived from Biomethane from Dairy and Swine Manure from the Low Carbon Fuel Standard Program (included and incorporated here as Exhibit A); Petition for Reconsideration (included and incorporated here as Exhibit B).

<sup>6</sup> CARB, PUBLIC HEARING TO CONSIDER PROPOSED LOW CARBON FUEL STANDARD AMENDMENTS, RESOLUTION 24-14 at 7 (Nov. 8, 2024), <https://perma.cc/V4UV-YFW6>.

### ***Unlawfully Truncated System Boundary***

First, this application incorporates an unlawfully truncated system boundary that ignores feedstock production at the source factory farm in Fresno County, California—which confines nearly **13,700 cows**<sup>7</sup>—and other emissions such as those from storage and disposal of digestate, resulting in an artificially low CI and inflated credit generation. A fuel pathway life cycle analysis must take into account “feedstock production” and “waste generation, treatment and disposal.”<sup>8</sup> In addition to the evidence provided in Exhibits A and B, more recent research indicates that emissions from factory farm gas production are significantly higher than currently appreciated, with especially high emissions from digestate storage.<sup>9</sup> This recent study did not consider additional emissions from digestate handling and application, which are another potentially large source of emissions resulting from factory farm biogas production that must be included in the pathway life cycle analysis.<sup>10</sup>

The application also fails to account for realistic leakage from this project. Real world observations and studies continue to show that leakage at many biogas facilities is higher than assumed by CARB and can completely undo any claimed climate benefit. For example, a recent study highlighted this problem, finding leakage rates up to 65% at the studied biogas facilities and that a large number of systems exceeded a net-zero threshold.<sup>11</sup> This corroborates many other similar findings.<sup>12</sup> Yet CARB and the pathway applicant ignore each of these emission streams. In other words, this application dramatically undercounts the greenhouse gas emissions associated with this fuel by failing to apply the required “well-to-wheel” analysis.

### ***Lavish Rewards for Factory Farms for Intentionally Creating Methane***

Second, this application overcounts environmental benefits by ignoring that this is, in one factory farm owner’s words, “**lucrative**” feedstock production.<sup>13</sup> Liquified manure rotting anaerobically in massive waste “lagoons” that are never completely emptied is not an unavoidable and natural consequence of animal agriculture operations. This system and the

---

<sup>7</sup> Application B0858 CARB Staff Summary at 2.

<sup>8</sup> Cal. Code Regs. Tit. 17 §§ 95481(a)(66), 95488.7(a)(2)(B).

<sup>9</sup> Semra Bakkaloglu et al., *Methane Emissions Along Biomethane and Biogas Supply Chains Are Underestimated*, 5 ONE EARTH 724–736 (June 17, 2022), <https://www.sciencedirect.com/science/article/pii/S2590332222002676>.

<sup>10</sup> *Id.* at 728; Michael A. Holly et al., *Greenhouse Gas and Ammonia Emissions from Digested and Separated Dairy Manure During Storage and After Land Application*, 239 AGRIC. ECOSYSTEMS & ENV’T 410, 418 (Feb. 15, 2017), <https://doi.org/10.1016/j.agee.2017.02.007>; Roger Nkoa, *Agricultural benefits and environmental risks of soil fertilization with anaerobic digestates: a review*, 34 AGRONOMY FOR SUST. DEV. 473 (2014), <https://link.springer.com/article/10.1007/s13593-013-0196-z>; F. Montes et al., *SPECIAL TOPICS — Mitigation of methane and nitrous oxide emissions from animal operations: II. A review of manure management mitigation options*, 91 J. OF ANIMAL SCI. 5070 (2013), <https://academic.oup.com/jas/article/91/11/5070/4731316>; Kurt Möller & Walter Stinner, *Effects of different manuring systems with and without biogas digestion on soil mineral nitrogen content and on gaseous nitrogen losses (ammonia, nitrous oxides)*, EUROPEAN J. OF AGRONOMY (2009), <https://www.sciencedirect.com/science/article/abs/pii/S1161030108000695?via%3Dihub>.

<sup>11</sup> Xiatong Li et al., *Methane Leakage Thresholds for Net Climate Benefits of Wastewater Biogas Recovery*, Nature Sustainability (2026), <https://www.nature.com/articles/s41893-026-01818-7>.

<sup>12</sup> Bakkaloglu et al., *supra* note 9.

<sup>13</sup> Stacey Smart, *Deer Run Dairy wins national sustainability award*, DAIRY STAR (June 27, 2022), <https://perma.cc/S4LV-MN6D> (emphasis added) (“Installed in 2011, the digester supplied power to nearly 600 homes. In 2020, the farm converted over to renewable natural gas that is injected into the pipeline, which Duane said is a more lucrative option.”).

methane emissions that it causes are the result of the source factory farm’s intentional management decisions designed to maximize profits and externalize pollution costs. CARB’s policy of avoided methane crediting reflects CARB’s decision to ignore that the emissions the pathway applicant claims as captured from the factory farm’s lagoons are intentionally created in the first place, which means CARB is perversely incentivizing the production of factory farm methane by making that methane incredibly valuable in the LCFS. In reality, the manure handling practices at this factory farm are an integrated part of generating and using factory farm gas. Thus, the gas generated at this facility is an intentionally produced product and cannot now be claimed as “captured” to secure a lucrative negative CI value of **-1,887.35**.

### ***Lack of Additionality and Double-Counting of Purported Emission Reductions***

Third, CARB has failed to ensure that the additionality requirements of Health and Safety Code section 38562 are met for this application.<sup>14</sup> Indeed, there is no evidence that CARB has investigated whether these purported emission reductions otherwise would occur. It also does not appear that CARB has made any effort whatsoever to verify that these environmental attributes have not already been claimed elsewhere, such as in utility/consumer promotional programs, other state low carbon fuels programs, tax credit programs, or product marketing. CARB cannot certify this pathway without conducting this analysis.

This is doubly true here, where, as we explained in our comments opposing Tier 2 Application B0490, the digester and fuel cell were funded by the California Department of Food and Agriculture’s (CDFA) Dairy Digester Research and Development Program.<sup>15</sup> As Commenters explained in our petitions for rulemaking, the California Department of Food and Agriculture has therefore already claimed the purported methane emission reductions. Likewise, the SoHyCal project received a \$3.96 million grant from the California Energy Commission (CEC) Clean Transportation Program, so the CEC has already claimed emission reductions related to displaced fossil fuels.<sup>16</sup> These purported methane emission reductions would have occurred without the LCFS and are not additional. Thus, certification of this pathway with this proposed CI value would openly violate section 38562.

### ***Incentivizing Pollution***

Fourth, this application is a good example of how CARB’s flawed approach is rewarding the biggest factory farm polluters and incentivizing further expansion and herd consolidation, which does more climate harm than good. The source factory farm is not a sustainable family farm—it is a large industrial operation that confines a total of **13,700 cows**<sup>17</sup> and liquefies their manure, which creates large quantities of methane that would not have existed if the factory farm

---

<sup>14</sup> See Ex. A, Petition for Rulemaking, section III.A.2; Ex. B, Petition for Reconsideration, section III.A.3.

<sup>15</sup> CDFA, DAIRY DIGESTER RESEARCH AND DEVELOPMENT PROGRAM, REPORT OF FUNDED PROJECTS (2015-2022) 86, <https://perma.cc/67Z8-QSPU>.

<sup>16</sup> CEC, CALIFORNIA ENERGY COMMISSION CLEAN TRANSPORTATION PROGRAM FINAL PROJECT REPORT, SOLAR PV HYDROGEN PRODUCTION PLANT IN CENTRAL CALIFORNIA, H2B2 USA, LLC SOHYCAL RENEWABLE HYDROGEN PRODUCTION PLANT (Oct. 31, 2024), <https://perma.cc/T3TB-8VX4>.

<sup>17</sup> Relatedly, it is impossible to verify the approximate 13,700 cows. This is the same number claimed in the applicant’s B0490 pathway application from 2023, but it appears that Bar 20 actually encompasses *two* dairies that are permitted to have approximately 11,000 and 24,000 cows, respectively. SAN JOAQUIN VALLEY AIR POLLUTION

had chosen to use a different kind of manure management system.<sup>18</sup> CARB should not allow this factory farm to profit from the LCFS.

### ***Incomplete, Incorrect, and/or Hidden Data and CI Calculations***

Fifth, this application—which, again, proposes a pathway with the lowest CI value in the history of the LCFS—relies on incomplete, incorrect, and/or hidden data and calculations. As a threshold matter, the opacity of this pathway application makes it impossible to analyze how the applicant or CARB arrived at this astonishingly low CI value of -1,887.35. In fact, it is so opaque that it is impossible for Commenters or other stakeholders to meaningfully evaluate it at all.<sup>19</sup> For example, the application package lists but wholly withholds all “Bar 20 Dairy Biogas, LLC (Joint Applicant) documents” and fails even to describe what those documents are. Likewise, the Lifecycle Analysis Report and CA-GREET 3.0 Model Inputs for this application withhold all data and other parameters behind the calculation of the CI for the factory farm biogas to electricity portion of the pathway just because the applicant claims those data and parameters are confidential business information or trade secrets. But claiming so does not make it so, and there is no evidence that CARB has confirmed that the withheld information is indeed confidential business information or trade secrets. It is critical that such data and parameters be disclosed.

Moreover, the CA-GREET 3.0 Model Inputs document appears to be incomplete and partially copied and pasted from another application. This document may not even be the correct and/or final version, as it appears to include redlines and is also out of date, stating that it was last updated on July 19, 2021. Starting on page 3, the document bears the headers “Application No. B0677” and “Updated 07/08/2024.” Application B0677 is not publicly available on CARB’s website or mentioned anywhere else in this application. This document also appears to fail to account for emissions from the reciprocating engine used to combust the factory farm biogas and omits data and parameters for the hydrogen production component of this project. The document says that modifications for hydrogen production are in an “Added Section,” but this added section is nowhere to be found. This is especially important information for this application, which includes an extremely attenuated stream of processes—manure to factory farm biogas to electricity and water to hydrogen—to produce the fuel at issue. There is no evidence in these documents that CARB or the applicant made any effort to account for the inefficiency and energy losses associated with this convoluted production process.

### ***Racial Discrimination and Violation of Civil Rights***

Fifth, the extreme negative CI proposed in this application deals additional environmental injustice on California citizens who will be exposed to higher levels of pollution from fossil transportation fuel and dirty vehicles made possible by excessive LCFS credit generation at

---

CONTROL DISTRICT, PERMIT UNIT: C-5203-2-4, <https://perma.cc/CK6M-8R4Z>; SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, PERMIT UNIT: C-5203-7-2, <https://perma.cc/2CAK-5Q4N>. Neither this application (B0858) nor the previous application (B0490) include sufficient information to evaluate what is happening on the ground at this factory farm, and CARB redactions make it all the more impossible.

<sup>18</sup> Application B0858 CARB Staff Summary at 2.

<sup>19</sup> Publicly posted application materials “must provide sufficient information to allow for meaningful stakeholder review.” CAL. AIR RES. BD., LOW CARBON FUEL STANDARD (LCFS) GUIDANCE 20-051 (Apr. 2020), <https://perma.cc/856Y-CVVZ>.

factory farms. CARB has acknowledged that pollution from transportation fuels inflicts a racially disparate impact, so this continued certification of fuel pathways with extreme negative CI values to allow more pollution from deficit holders contributes to this injustice.<sup>20</sup>

The certification of this pathway would also result in a discriminatory impact, in conflict with CARB's obligations under California Government Code 11135, which imposes an affirmative duty on CARB to ensure that its policies and practices do not have a discriminatory impact on the basis of race. Bar 20, the source factory farm, is located in Fresno County, which has a significantly higher Latino/a/e/ population than California (55.3% compared to approximately 40.8%) according to 2025 U.S. Census Data.<sup>21</sup> Additionally, Fresno County has a higher poverty rate than California as a whole, and its residents have lower incomes compared to others in the state.<sup>22</sup>

The community that the Bar 20 factory farm occupies already suffers a substantial and disproportionate pollution burden, including extreme and disproportionate impacts from ozone, PM 2.5, and drinking water contamination,<sup>23</sup> all of which are caused and exacerbated by dairy operations. As explained in the Petition for Rulemaking to Exclude All Fuels Derived from Biomethane from Dairy and Swine Manure from the Low Carbon Fuel Standard Program,<sup>24</sup> the fact that this pathway applicant intends to burn the factory farm biogas onsite in a reciprocating engine to generate electricity will further worsen air quality in this community—and not without consequence. According to a study by UC Davis, more than 20% of children in Fresno County have been diagnosed with asthma, which is well above the state average, and Fresno County also has one of the highest asthma-related emergency room visit rates for children in the state.<sup>25</sup>

The community that this factory farm occupies also suffers from critical groundwater overdraft and water pollution.<sup>26</sup> The source factory farm is located in the Kings Subbasin, which is critically overdrafted under the Sustainable Groundwater Management Act (SGMA). By certifying this pathway, CARB would further incentivize expansion and herd consolidation—as well as the production of cow manure—in an area that cannot support continued unreasonable groundwater use and abuse by the dairy industry.<sup>27</sup> As explained in the Petition for Reconsideration, wells are already going dry and other adverse effects of overdraft, including further impaired water quality, are already affecting residents and communities in this region.<sup>28</sup> This is on top of the dairy industry's dangerous nitrate loading and other water pollution, which

---

<sup>20</sup> See 2020 Mobile Source Strategy at 26–27, <https://perma.cc/4P3H-HG3Z>.

<sup>21</sup> *QuickFacts California; Fresno County, California*, U.S. CENSUS BUREAU, <https://www.census.gov/quickfacts/fact/table/CA,fresnocountycalifornia/RHI725224>.

<sup>22</sup> *Id.*

<sup>23</sup> *CalEnviroScreen 4.0*, OEHHA, <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40> (last visited May 29, 2026) (large portions of Fresno County already in the 80<sup>th</sup> percentile for ozone, 94<sup>th</sup> percentile for PM 2.5, and 99<sup>th</sup> percentile for drinking water contaminants).

<sup>24</sup> Ex. A, Petition for Rulemaking, at 30.

<sup>25</sup> UC DAVIS ET AL., CALIFORNIA'S SAN JOAQUIN VALLEY: A REGION AND ITS CHILDREN UNDER STRESS 21–22 (Jan. 2017), <https://perma.cc/768R-X2K9>.

<sup>26</sup> CAL. DEP'T OF WATER RES., *Critically Overdrafted Basins*, <https://perma.cc/3PS4-8QFZ> (last visited May 29, 2026) (listing the Kings Subbasin as critically overdrafted).

<sup>27</sup> CAL. CONST., art. X, § 2; see Cal. Water Code § 100.

<sup>28</sup> Ex. B, Petition for Reconsideration, section III.A.4.a–b.

have greatly harmed community health.<sup>29</sup> Granting this application would undermine SGMA and encourage the dairy industry to continue its unreasonable use of water.

The certification of this pathway would do nothing to address these serious harms and environmental injustice. Rather, it would incentivize the most polluting herd and manure management practices and incentivize the expansion of herd populations to greenwash hydrogen production. Further, it would violate section 38562 by failing to ensure that such certification would not disproportionately impact low-income communities (§ 38562(b)(2)) and by failing to ensure that it would not interfere with efforts to achieve and maintain federal and state ambient air quality standards (§ 38562(b)(4)).

### ***Other Issues with CI Calculation***

As this application highlights, CARB’s unlawful and unjust administration of the LCFS program is causing environmental and public health harms in California by incentivizing and rewarding some of the worst factory farm practices by making them more “*lucrative*.” This application takes the problem to a new and alarming level. If California is serious about being a climate leader, this is not the example to set. Commenters request that CARB deny the application. To do otherwise would violate federal and state law, further destroy the integrity of the LCFS market, undermine California’s climate change mitigation efforts, and harm California communities.

Respectfully,

Christine Ball-Blakely  
Senior Staff Attorney  
Animal Legal Defense Fund  
(707) 795-2533  
cblakely@aldf.org

---

<sup>29</sup> *Id.*