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Submitted via ca.gov

Mary D. Nichols, Chairperson
California Air Resources Board
1001 I Street #2828
Sacramento, CA 95814

RE: COMMENTS IN OPPOSITION TO TIER 2 PATHWAY APPLICATION NO. B0108

Dear Chairperson Nichols:

Pursuant to Cal. Code Regs. tit. 17, § 95488.7(d)(5), the Animal Legal Defense Fund (ALDF)[1] submits the following comments in opposition to the above-referenced application for certification of a Tier 2 pathway for biomethane. The biomethane would originate from two dairy concentrated animal feeding operations (CAFOs), which are part of the industrial animal agriculture system—one of the largest global contributors to climate change and pollution. As wildfires continue to rage in California and throughout the west, it is incumbent upon the California Air Resources Board (CARB) to prevent environmentally destructive CAFOs from exploiting and profiting from the Low Carbon Fuel Standard (LCFS) program, which exists to mitigate climate change and pollution.

CARB should reject the application because it is fatally flawed, both factually and methodologically, and because to do otherwise would undermine the purpose of the

[1] ALDF is a national nonprofit membership organization based in California with over 300,000 members and supporters nationwide. ALDF's mission is to protect the lives and advance the interests of animals through the legal system. Advocating for effective oversight and regulation of the animal agriculture industry across the United States is one of ALDF's central goals, which it achieves by filing lawsuits, administrative comments, and rulemaking petitions to increase legal protections for animals; supporting strong animal protection legislation; and fighting against legislation, like state "ag gag" laws, that is harmful to animals and communities surrounding CAFOs. Through these efforts, ALDF seeks to ensure transparency in the CAFO system, which is paramount to its ability to protect farmed animals and ALDF members from CAFOs' immensely harmful effects.

LCFS program. First, important factual information is omitted, redacted, or labeled "confidential" in the application, rendering meaningful stakeholder review of its claims impossible. Second, the application fails to employ a methodologically sound life cycle analysis that accounts for the greenhouse gas (GHG) emissions that result from the applicant's production of biomethane. Finally, granting the application would incentivize CAFOs to expand its industrial dairy business, which would increase air pollution, accelerate climate change, further degrade water quality and quantity, and harm community health. Accordingly, we urge CARB to reject the application.

I. BACKGROUND

A. The Low Carbon Fuel Standard Program

The 2006 California Global Warming Solutions Act called for the state to reduce GHG emissions to fight climate change, and made clear that state efforts to reduce GHG emissions should not compromise or conflict with efforts to reduce air pollution.[2] In 2007, then-Governor Schwarzenegger signed Executive Order S-1-07, which declared GHG emissions a "serious threat" to the environment and human health.[3]

CARB, which is responsible for reducing GHG emissions,[4] adopted the LCFS regulation in 2009, and began implementing it in 2011.[5] "The LCFS is a key part of a comprehensive set of programs in California to cut GHG emissions and other smog-forming and toxic air pollutants," and the program exists to reduce the GHG emissions that cause climate change.[6] The bedrock of the LCFS program is "the principle that each fuel has '***life cycle***' [GHG] emissions that include CO_2, CH_4, N_2O, and other GHG contributors."[7]

B. Concentrated Animal Feeding Operations

CAFOs—also known as factory farms—are industrial-scale agricultural facilities that keep hundreds to thousands of animals in cruel, high-density confinement.[8]

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2 Cal. Health & Safety Code §§ 38500–38599.

3 Executive Order S-1-07 (Jan. 18, 2007).

4 Cal. Health & Safety Code § 38510.

5 *Low Carbon Fuel Standard*, CAL. AIR. RES. BD., https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/about (last visited Sep. 20, 2020).

6 *Id.*

7 *Id.* (emphasis added).

8 CARRIE HRIBAR, NAT'L ASSOC. OF LOCAL BDS. OF HEALTH, UNDERSTANDING CONCENTRATED ANIMAL FEEDING OPERATIONS AND THEIR IMPACTS ON COMMUNITIES 1 (2010), CENTERS FOR DISEASE CONTROL AND PREVENTION, https://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf.

CAFOs deplete water quantity and produce vast amounts of animal manure[9] and emissions (including GHG) that spur climate change and significantly degrade air and water quality.[10] These environmental effects harm human health,[11] particularly in communities with "minority" and low-income populations,[12] where CAFOs are disproportionately sited.[13] CAFOs and their environmental effects also harm animals, including farmed animals and wild animals who are members of endangered and threatened species.[14]

1. CAFO emissions spur climate change, degrade air quality, and harm human health.

CAFOs produce emissions that fuel climate change[15] and diminish ambient air quality.[16] These emissions include four hundred different volatile organic compounds,

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[9] "Underlying all of the environmental problems associated with CAFOs is the fact that too much manure accumulates in restricted areas." EPA, *Risk Assessment Evaluation for Concentrated Animal Feeding Operations* 2 (May 2004); *see id.* at 9 (stating that a dairy CAFO with one thousand cows produce the same amount of waste as a city of 164,500 humans).

[10] Hribar, *supra* note 8, at 2–11.

[11] *Id.*

[12] *See, e.g.*, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Exec. Order No. 12,898, 3 C.F.R. 859 (1995), *reprinted as amended in* 42 U.S.C. § 4321 (1998).

[13] *See* Jan. 12, 2017 EPA External Civil Rights Compliance Office Letter of Concern to N.C. Dep't of Envtl. Quality (describing discriminatory health and quality of life impacts from pig and poultry CAFOs), https://www.epa.gov/sites/production/files/2018-05/documents/letter_of_concern_to_william_g_ross_nc_deq_re_admin_complaint_11r-14-r4_.pdf; Kelley J. Donham et al., *Community Health and Socioeconomic Issues Surrounding Concentrated Animal Feeding Operations*, 115 ENVTL. HEALTH PERSP. 317 (2007); Steve Wing et al., *Environmental Injustice in North Carolina's Hog Industry*, 108 ENVTL. HEALTH PERSP. 225 (2000).

[14] ENVIRONMENTAL IMPACT OF INDUSTRIAL FARM ANIMAL PRODUCTION 30 (2008), PEW COMMISSION ON INDUSTRIAL FARM ANIMAL PRODUCTION, http://www.pcifapia.org/_images/212-4_EnvImpact_tc_Final.pdf; LIVESTOCK'S LONG SHADOW: ENVIRONMENTAL ISSUES AND OPTIONS 196, 209, 273 (2006), UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION, http://www.fao.org/3/a0701e/a0701e.pdf.

[15] Hribar, *supra* note 8, at 7; *see* R.M. Duren et al., *California's methane super-emitters*, 575 NATURE 180 (Nov. 7, 2019) (results of a study finding that California dairy CAFOs contribute 26% of all of California's point-source methane emissions—more than the oil and gas sector); CAFO SUBCOMM. OF THE MICH. DEP'T OF ENVTL. QUALITY TOXICS STEERING GRP., CONCENTRATED ANIMAL FEEDLOT OPERATIONS (CAFOS) CHEMICALS ASSOCIATED WITH AIR EMISSIONS 8 (May 10, 2006).

[16] Hribar, *supra* note 8, at 3.

particulate matter, methane, ammonia, hydrogen sulfide, ozone, endotoxins, and noxious odors.[17] CAFOs produce nearly 75% of the United States' ammonia air pollution.[18]

These emissions are so concentrated that it can be dangerous even to approach a waste lagoon—particularly in hot summer months.[19] "The oxygen-deficient, toxic, and/or explosive atmosphere which can develop in a manure pit has claimed many lives."[20] There are multiple incidents of farm workers approaching lagoons to make repairs and succumbing to fatal emissions; some died from hydrogen sulfide poisoning, while others asphyxiated in the oxygen-starved air.[21] Others died after collapsing during rescue attempts.[22]

But it is not necessary to be near a lagoon to suffer health effects from the emissions. One study showed that people in CAFO-occupied communities "suffered disproportionate levels of tension, anger, confusion, fatigue, depression, and lack of overall vigor as well as more upper respiratory and gastrointestinal ailments than neighbors of other types of farms and non-livestock areas."[23] Ammonia is a "strong respiratory irritant" that causes chemical burns to the respiratory tract, skin, and eyes.[24] It also causes severe coughing and chronic lung disease.[25] Hydrogen sulfide is acutely dangerous, causing "inflammation of the moist membranes" in the eyes and respiratory tract as well as olfactory neuron loss, pulmonary edema, and even death.[26] Particulate matter causes "chronic bronchitis, chronic respiratory symptoms, declines in lung function, [and] organic dust toxic syndrome."[27]

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17 *See* ROBBIN MARKS, CESSPOOLS OF SHAME: HOW FACTORY FARM LAGOONS AND SPRAYFIELDS THREATEN ENVIRONMENTAL AND PUBLIC HEALTH 1, 17 (July 2001), https://www.nrdc.org/sites/default/files/cesspools.pdf; *see also* Sarah C. Wilson, Comment, *Hogwash! Why Industrial Animal Agriculture is Not Beyond the Scope of Clean Air Act Regulation*, 24 PACE ENVTL. L. REV. 439, 441 (2007) (highlighting the health impacts of such emissions).

18 *CAFOs Ordered to Report Hazardous Pollution*, WATERKEEPER ALLIANCE (Apr. 11, 2017), http://waterkeeper.org/cafos-ordered-to-report-hazardous-pollution/.

19 Marks, *supra* note 17, at 26.

20 *NIOSH Warns: Manure Pits Continue to Claim Lives*, CENTERS FOR DISEASE CONTROL AND PREVENTION (July 6, 1993), https://www.cdc.gov/niosh/updates/93-114.html.

21 Marks, *supra* note 17, at 19.

22 *See id.* at 26.

23 Wilson, *supra* note 17, at 445 n.45.

24 CAFO Subcomm., *supra* note 15, at 4.

25 Hribar, *supra* note 8, at 6.

26 *Id.*; CAFO Subcomm., *supra* note 15, at 4.

27 Hribar, *supra* note 8, at 6.

2. CAFOs degrade water quantity and quality, which harms human health.

CAFOs consume "a massive amount of water" for various operational purposes, such as flushing manure from barns and watering animals.[28] Pig and dairy CAFOs are particularly water intensive.[29] For example, one sow and twenty piglets in a pig CAFO would require approximately 14,000 gallons of drinking water and nearly 55,000 gallons of flushing water per year.[30] A single dairy in Oregon, Lost Valley Farm, was expecting to use close to one million gallons of water each day before the state shuttered it for hundreds of permit violations and massive environmental degradation.[31] "Because of this demand for water, CAFOs tend to seek sites above major aquifers [and] water is essentially treated as a free good after it is removed from the ground."[32]

CAFOs also pollute surface water and groundwater via lagoon breaches, seeps, and leaks; catastrophic flooding; and sprayfield runoff.[33] Contaminants in manure include nitrates and pathogens,[34] as well as ammonium, phosphate, dissolved solids, metals and metalloids, pharmaceutical chemicals, and natural and synthetic hormones.[35] Pathogens are parasites, bacteria, and viruses capable of causing disease or infection in animals or humans, and there are one hundred and fifty different pathogens in manure capable of affecting human health.[36] Metals and metalloids

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28 *See* WILLIAM J. WEIDA, CONCENTRATED ANIMAL FEEDING OPERATIONS AND THE ECONOMICS OF EFFICIENCY 22 (Mar. 19, 2000), https://www.sraproject.org/wp-content/uploads/2017/10/cafosandtheeconomicsofefficiency.pdf; *see* Faith Cullens, *Water use on dairy farms*, MICH. STATE. U. https://www.canr.msu.edu/news/water_use_on_dairy_farms (noting that agriculture uses 70% of fresh water).

29 *See* Hribar, *supra* note 8, at 8.

30 Weida, *supra* note 28, at 22.

31 *See* Tracy Loew, *State officials let mega-dairy use loophole to tap endangered Oregon aquifer*, STATESMAN JOURNAL (Mar. 22, 2018), https://www.statesmanjournal.com/story/tech/science/environment/2018/03/22/lost-valley-mega-dairy-oregon-used-loophole-tap-aquifier-allowed-state-officials/426738002/.

32 Weida, *supra* note 28, at 22; *see* Loew, *supra* note 31 (describing how Lost Valley Farm, a former dairy CAFO located approximately twelve miles from Threemile Canyon Farms, exploited a legal loophole to extract water from an overdrawn aquifer).

33 *Id.* at 4.

34 Wing et al., *supra* note 13, at 225.

35 STEPHEN R. HUTCHINS ET AL., CASE STUDIES ON THE IMPACT OF CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFOS) ON GROUND WATER QUALITY 7–8 (2012).

36 Hribar, *supra* note 8, at 8–9.

include copper, zinc, arsenic, nickel, and selenium.[37] Pharmaceutical chemicals include antibiotics, and hormones include estrogen.[38]

The health impacts of polluted water are serious, particularly for those who have weakened immune systems. Symptoms of illnesses caused by contaminated water include "nausea, vomiting, fever, diarrhea, muscle pain, death," and kidney failure.[39] People at high risk of illness or death constitute approximately 20% of the United States population, and they include elders, infants, children, and those who are pregnant, HIV positive, on chemotherapy, or are otherwise immuno-suppressed.[40] Rural America faces significant health disparities which are exacerbated by the presence of CAFOs.[41] Most immediately, COVID-19 is revealing just how disparate health services and outcomes are in rural communities when compared to urban populations.[42]

In addition to pathogen-driven illnesses, CAFOs also breed new viruses and generate pandemics. When the U.S. Centers for Disease Control and Prevention (CDC) sequenced the DNA of the swine flu that killed thousands of Americans in 2009, they traced its origin to a single North Carolina pig CAFO.[43] The CDC estimates that the 2009 swine flu pandemic sickened 60.8 million Americans, hospitalized 274,304, and killed 12,469, including more than a thousand children.[44] Similarly, though both COVID-19 and SARS likely originated in live animal markets,[45] they could have

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37 Hutchins et al., *supra* note 35, at 9.

38 *Id.* at 9–13.

39 Hribar, *supra* note 8, at 10.

40 *Id.* at 4.

41 *See generally,* Virginia Guidry et al., *Connecting Environmental Justice and Community Health*, 79 N.C. Med. J. 5, 324–28 (Sept. 10, 2018), https://www.ncmedicaljournal.com/content/79/5/324.full.

42 Liz Essley Whyte and Chris Zubak-Skees, *Underlying Health Disparities Could Mean Coronavirus Hits Some Communities Harder*, NPR (Apr. 1, 2020), https://www.npr.org/sections/health-shots/2020/04/01/824874977/underlying-health-disparities-could-mean-coronavirus-hits-some-communities-harder.

43 Gavin J. D. Smith, et al., *Origins and Evolutionary Genomics of the 2009 Swine-origin H1N1 Influenza of Epidemic*, 459 NATURE 1122 (2009); Bernice Wuethrich, *Chasing the Fickle Swine Flu*, 299 SCIENCE 1502 (2003).

44 Sundar S. Shrestha et al., *Estimating the Burden of 2009 Pandemic Influenza of (H1N1) in the United States (April 2009–April 2010)*, 52 CLINICAL INFECTIOUS DISEASES S75–82 (2011).

45 Aylin Woodward, *Both the new coronavirus and SARS outbreaks likely started in Chinese wet markets,* BUS. INSIDER (Feb. 26, 2020), https://www.business insider.com/wuhan-coronavirus-chinese-wet-market-photos-2020-1 (discussing the potential for zoonotic diseases to jump from animals to humans).

originated in CAFOs due to their similar conditions—and the next pandemic very well may.[46]

Finally, there are often antibiotics in CAFO animal feed.[47] Seventy percent of all antibiotics used in the United States are administered to farmed animals as feed additives.[48] CDC has recommended that the use of antibiotics in "food animals" be "phased out."[49] These antibiotics are dangerous because "[t]he antibiotics often are not fully metabolized by animals, and can be present in their manure. If manure pollutes a water supply, antibiotics can also leech into groundwater or surface water."[50] The risk to public health is high because this exposure causes antibiotics to be less effective for humans while also leading to the development of antibiotic-resistant microbes.[51]

3. CAFOs disproportionately harm communities of color and low-income communities.

Environmental justice communities suffer disproportionately from both the environmental and the economic impacts of factory farms.[52] A study of the vertically

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46 ANIMAL LEGAL DEFENSE FUND, COVID-19 AND ANIMALS: RETHINKING OUR RELATIONSHIP WITH ANIMALS TO REDUCE THE LIKELIHOOD OF THE NEXT GLOBAL PANDEMIC 9, (June 2020), https://aldf.org/wp-content/uploads/2020/06/White-Paper-COVID-19-and-Animals.pdf ("A variety of factors contributed to the development and spread of COVID-19 and aggravate humanity's risk from further zoonotic diseases . . . . The common thread binding all risk factors, however, is our exploitation of both animals and the natural environment we share with them.").

47 Hribar, *supra* note 8, at 10; *Antibiotic Resistance Threats in the United States*, CENTERS FOR DISEASE CONTROL AND PREVENTION 11 (2013), https://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf#page=6; *see* Mary J. Gilchrist et al., *The Potential Role of Concentrated Animal Feeding Operations in Infectious Disease Epidemics and Antibiotic Resistance*, 115 ENVTL. HEALTH PERSPECTIVES 313, 313–14 (2006).

48 Hribar, *supra* note 8, at 10; *see* Gilchrist et al., *supra* note 47, at 313 (noting that estimates suggest up to 87% of all antibiotic use in the United States is for livestock animals).

49 CDC, *supra* note 47, at 11.

50 Hribar, *supra* note 8, at 10.

51 *Id.* (citing Marc Kaufman, *Worries Rise Over Effect of Antibiotics in Animal Feed: Humans Seen Vulnerable to Drug-Resistant Germs*, WASH. POST, A01 (Mar. 17, 2000), http://www.washingtonpost.com/wp-srv/WPcap/2000-03/17/071r-031700-idx.html (explaining that eating the flesh of animals who have been fed antibiotics further increases one's risk of developing antibiotic resistance)).

52 Steve Wing and Jill Johnson, *Industrial Hog Operations in North Carolina Disproportionately Impact African-Americans, Hispanics and American Indians*,

integrated hog farm industry in North Carolina, for example, found that there were "18.9 times as many hog operations in the highest quintile of poverty as compared to the lowest," and that such operations were "5 times as common in the highest three quintiles of the percentage nonwhite population as compared to the lowest."[53] Individuals suffering adverse health impacts from CAFOs include not only members of local communities of color and low-income communities, but also CAFO workers themselves, of whom a large number are undocumented and/or people of color.[54]

4. CAFOs harm animals, including those who are members of endangered and threatened species.

CAFOs harm farmed animals by subjecting them to extreme, high-density confinement. These conditions increase the confined animals' susceptibility to injury, illness, and disease.[55] For example, chicken crowding causes footpad dermatitis, bruising, and other injuries.[56] Likewise, gestation crates, which are not even big enough for a pig to turn around in, cause pigs to experience musculoskeletal problems.[57] In addition, the animals generate massive amounts of waste, causing ammonia emissions to fill the warehouses in which the animals are confined, and causing the animals to suffer painful skin, lung, and eye damage.[58] These are only a small sampling of the ways in which CAFOs harm the animals they confine.

CAFOs also produce pollution and engage in land use practices that harm wildlife, including animals who are members of endangered and threatened species. For example, CAFOs harm aquatic biodiversity by degrading habitat, reducing species fertility, causing species mutation, increasing mortality, changing natural food resources, and generating expansion of nonnative species, often at the expense of native populations.[59] CAFOs harm terrestrial biodiversity by restricting genetic diversity, limiting or eliminating habitat (including forest, grassland, and wetland

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UNIVERSITY OF NORTH CAROLINA (2014), http://www.ncpolicywatch.com/wp-content/uploads/2014/09/UNC-Report.pdf; Wing et al., *supra* note 13, at 225.

53 Wing et al., *supra* note 13, at 225.

54 *Factory Farm Workers*, FOOD EMPOWERMENT PROJECT, https://foodispower.org/factory-farm-workers/ (last visited Sep. 19, 2020).

55 THE CRITICAL RELATIONSHIP BETWEEN FARM ANIMAL HEALTH AND WELFARE 7 (2018), ANIMAL WELFARE INSTITUTE, https://awionline.org/sites/default/files/uploads/documents/FA-AWI-Animal-Health-Welfare-Report-04022018.pdf.

56 *Id.*

57 *Id.*

58 *Id.*

59 Pew Comm'n on Industrial Farm Animal Prod., *supra* note 14; U.N. Food and Agri. Org., *supra* note 14, at 196, 209, 273.

habitat),[60] "increas[ing] vulnerability to large-scale damage by pests,"[61] and introducing invasive species, including the farmed animals.[62] CAFO air emissions further harm terrestrial and aquatic biodiversity by harming wildlife health and population numbers, and by changing species migration patterns, altering vegetative growth rates, and causing species extinction through climate change.[63]

II. METHANE DIGESTERS ARE FALSE SOLUTIONS.

Methane digesters are one of the ways in which CAFOs attempt to "greenwash" the environmentally destructive practices inherent in their business model.[64]

But methane digesters are ineffective, inefficient, and dirty energy sources, much like the fossil fuels the LCFS program seeks to displace. First, they do nothing to abate the applicant's unregulated air emissions, including the enteric emissions that comprise approximately half of all dairy emissions.[65] Second, they do not capture all of the methane they produce, and some amount escapes as emissions.[66] Such "fugitive methane" cuts into the reductions in GHG emissions that digesters claim to offer.[67] Third, "when digesters burn methane, they release [other GHGs] like carbon dioxide

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60 U.N. Food and Agri. Org., *supra* note 14, at 187.

61 Pew Comm'n on Industrial Farm Animal Prod., *supra* note 14, at 30.

62 U.N. Food and Agri. Org., *supra* note 14, at 197.

63 *Id.* at 187, 195–96.

64 Bruce Watson, *The troubling evolution of corporate greenwashing*, THE GUARDIAN (Aug. 20, 2016), https://www.theguardian.com/sustainable-business/2016/aug/20/greenwashing-environmentalism-lies-companies (explaining that the term "greenwashing" was coined by environmentalist Jay Westerveld in 1986 to describe how corporations "present themselves as caring environmental stewards, even as they [commit] environmentally unsustainable practices").

65 Research indicates that "enteric emissions are normally the largest source of greenhouse gas on a dairy farm. On well-managed confinement farms, they contribute about 45% of the total GHG emission of the full farm system. . . ." C. Alan Rotz, *Modeling Greenhouse Gas Emissions from Dairy Farms*, 101 J. OF DAIRY SCI. 6675, 6677 (2018), https://www.journalofdairyscience.org/action/showPdf?pii=S0022-0302%2817%2931069-X; *see also id.* at 6675 ("Dairy farms have been identified as an important source of greenhouse gas emissions. Within the farm, important emissions include enteric CH_4 from the animals, CH_4 and N_2O from manure in housing facilities during long-term storage and during field application, and N_2O from nitrification and denitrification processes in the soil used to produce feed crops and pasture.").

66 *See* FOOD AND WATER WATCH, HARD TO DIGEST: GREENWASHING MANURE INTO RENEWABLE ENERGY 3 (Nov. 2016), https://www.foodandwaterwatch.org/sites/default/files/ib_1611_manure-digesters-web.pdf.

67 *Id.*

and nitrogen oxide, which contribute[] to smog" and climate change.[68] Fourth, digesters do nothing to abate the applicant's water pollution or other adverse environmental impacts. Fifth, "[d]igesters require significant energy to collect, pump and truck manure to and from the digester and to heat the manure once it is in the digester. As much as half of the energy produced from digesters may be needed to operate the digester itself."[69] Finally, digesters have the potential to spill or leak manure—and they may even explode.[70]

III. GRANTING THE APPLICATION—WHICH IS FATALLY FLAWED BECAUSE IT IS FACTUALLY INCOMPLETE AND METHODOLOGICALLY UNSOUND—WOULD UNDERMINE THE PURPOSE OF THE LCFS PROGRAM.

A. Important factual information is omitted, redacted, or labeled "confidential" in the application, rendering meaningful stakeholder review of its claims impossible.

Publicly posted application materials "must provide sufficient information to allow for meaningful stakeholder review."[71] The application fails to conform to this requirement.

The applicant omits information that is necessary for stakeholders to perform a meaningful review of its claims. For example, the applicant fails to include information concerning the number of cows whose manure the applicant is sending to the digester, the total amount of manure generated, the total amount of manure sent to the digester, GHG emissions from the cows, GHG emissions resulting from manure stored and applied to land, GHG emissions resulting from operations to feed, water, and transport the cows, etc.

Other portions of the application are similarly opaque. Indeed, many pieces of critical data are entirely redacted or are labeled "confidential," as depicted below:

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68 *Id.*

69 *Id.*

70 *Id.* at 2 ("Just like manure lagoons without any methane capture system, digesters may accidentally spill or leak liquid manure and also present environmental risks from explosions associated with methane production. A 1.25 million gallon manure digester in Wisconsin, constructed in part with public funds, spilled 380,000 gallons of manure into nearby waterways in 2013, then another 22,000 gallons in 2014. The digester then experienced a major methane explosion.").

71 CAL. AIR. RES. BD., LOW CARBON FUEL STANDARD (LCFS) GUIDANCE 20-05 1 (Apr. 2020), https://ww2.arb.ca.gov/sites/default/files/classic//fuels/lcfs/guidance/lcfsguidance_20-05_ADA.pdf.

1.3 Manure Management Practices

Historic manure management practices prior to the operation of the digester are input into Section L1 of the Tier 1 Calculator. Manure management was handled differently at each dairy.

At the Double A Dairy, collected manure was passed over a stationary screen and through [redacted] smaller lagoons prior to being sent to longer term storage lagoons. The smaller lagoons were cleaned once each year in October. The separation efficiency at each stage of the management process is based upon ARB defaults and sampled data [redacted]% of the volatile solids were removed by the smaller lagoons with [redacted]% of the volatile solids ending up in longer term storage. At the A6 facility [redacted]% of manure was collected and passed over a stationary screen with the liquid portion being sent to long term storage.

In the Project [redacted]% of manure from Double A and [redacted]% of manure from A6 is collected and deposited in a central collection pit. Post-digester, effluent is run through two stationary screens prior to being sent to longer term storage.

Summary of Fugitive Emissions Calculation

	Total in HHV (MMBtu)	Cell in tier 1 CI Model "Biogas-to-RNG" Tab	Cell in CI Model Edited "EF Table" Tab
Raw Biogas Flow to Upgrading (2.6)	[redacted]	F54	
Flared Gas (2.21)	[redacted]	U54	
Biomethane Injected (2.23)	[redacted]	V54	
Fugitive Methane	[redacted]		
Fugitive Methane (%)	[redacted]		[redacted]

Fuel Pathway Summary

	CI Calculation Details – gCO2e/MJ
Raw Biogas Production – Digester	
Utility Source NG	[redacted]
Biogas Upgrading	
Grid Electricity	[redacted]
Biomethane (flaring)	[redacted]
Feed Loss (fugitive methane)	[redacted]
Biomethane Transmission	4.82
CNG Production	3.50

F94	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary
G94	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary
B97	L5.1.b Non-Anaerobic Storage / TreatementS Systems	Solid Storage	project data entry
D97	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary
E97	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary
F97	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary
G97	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary
B98	L5.1.b Non-Anaerobic Storage / TreatementS Systems	Pasture/Range/Paddock	project data entry
D98	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary
E98	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary
F98	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary
G98	L5.3 Manure Managed in Non-BCS (Other Systems)	CONFIDENTIAL	See APJ_BaselineSummary

Without these basic pieces of information, it is impossible for stakeholders—such as the undersigned organization, or CARB if it similarly lacks access—to meaningfully review the claims in the application and evaluate the environmental impact of the project.

B. The application fails to employ a methodologically sound life cycle analysis that accounts for the GHG emissions that result from the applicant's production of biomethane.

As previously discussed,[72] the bedrock of the LCFS program is "the principle that each fuel has '***life cycle***' [GHG] emissions that include CO_2, CH_4, N_2O, and other GHG contributors."[73] Contrary to this bedrock principle, the applicant's methodology assumes the preexistence of the vast quantity of manure and GHG emissions that the CAFOs produce from their regular business of raising cows for milk and proceeds from that pseudo baseline. But in reality, the biomethane that the applicant produces begins with the cows, and a methodologically sound life cycle analysis would also begin with them.

The CAFOs keep approximately 17,000 cows, and an unknown number of these cows produce the manure that the methane digester converts to biomethane. The cows require enormous volumes of food, water, and transportation in order to be profitable,

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72 *See supra* section I.A.

73 Cal. Air. Res. Bd., *supra* note 5 (emphasis added).

but none of the significant emissions[74] associated with these activities are accounted for or even acknowledged in the application. Nor are the significant emissions that come directly from the bodies of the cows.[75] The GHG emissions from the cows and the CAFO as a whole—including methane released from manure, enteric emissions, and other dairy operations—are unregulated. These emissions must be calculated and applied to the lifecycle GHG analysis for this project.

The applicant's failure to employ a methodology that accounts for the life cycle of the biomethane it produces is a fatal flaw because, in its current state, the application disregards the bedrock principle of the LCFS program. But if the applicant revised the application such that it complied with this bedrock principle by accurately representing the *life cycle* GHG emissions that result from production of the applicant's biomethane, it would reveal that there is nothing sustainable, renewable, or "green" about dairy CAFOs or methane digesters. In other words, if the application were methodologically sound, it would become more obvious that the applicant undermines the purpose of the LCFS program, and that CARB should not allow the applicant to exploit and profit from the program.

C. Granting the application would incentivize CAFOs to expand, which would increase air pollution, accelerate climate change, further degrade water quality and quantity, and harm community health.

CAFOs use methane digesters for one reason and one reason only: to increase profits. They do so by using digesters to greenwash their destructive business model and by using and selling the biomethane. The single biggest revenue stream available from the methane digesters, however, "come[s] from taking advantage of incentive structures like . . . California's Low Carbon Fuel Standard . . . ."[76]

By allowing CAFOs to take what is really a costly liability—the vast quantities of manure that they produce—and turn it into yet another source of profit, CARB would incentivize CAFOs to continue expanding and emitting ever-larger quantities of dangerous and climate change inducing GHG—*especially* methane. This stands in direct violation of the California Global Warming Solutions Act, which, as discussed

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[74] "Emissions occur during the production of electricity, fuel, fertilizer, purchased feed, and so on, and they must be included in the life cycle . . . ." Rotz, *supra* note 65, at 6684.

[75] Enteric emissions are the largest source of GHG emissions from dairies. *Id.* at 6677.

[76] Tracy Leow, *Manure is big business at Oregon's largest dairy with conversion to natural gas*, STATESMAN JOURNAL (Mar. 31, 2019), https://www.statesmanjournal.com/story/tech/science/environment/2019/03/31/oregon-threemile-canyon-farms-dairy-natural-gas-manure/3247197002/.

above,[77] specifies that efforts to reduce GHG emissions should not compromise or conflict with efforts to reduce air pollution.[78] Moreover, allowing CAFOs to participate in the LCFS program would also worsen their other forms of environmental degradation and the associated community health impacts.

I. CONCLUSION

The application should be rejected because there is no place for CAFOs in the LCFS program. The program exists to address climate change and pollution—not prop up the businesses responsible for causing climate change and pollution in the first place.

Sincerely,

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77 *See supra* section I.A.

78 *See* Cal. Health & Safety Code § 38570(b).