July 14, 2021

Liane M. Randolph, Chair
California Air Resources Board
1001 I Street, Sacramento, CA 95814

Re: Analysis of Progress toward Achieving the 2030 Dairy and Livestock Sector Methane Emissions Target Draft, June 2021 (the Analysis)

The undersigned environmental justice, food systems, and air quality organizations believe that efforts to reduce greenhouse gas emissions and combat climate change must also prioritize social equity, public health, air & water quality, and benefits to lower-income BIPOC communities who most often bear the weight of localized industrial pollution and climate change impacts. In the dairy and livestock sector, efforts to reduce methane that have focused on so-called "biogas" ignore the long-standing concerns from the very communities most impacted by the environmental degradation caused by heavily-polluting factory farms. At once brutally honest and disheartening, the Analysis notes that the state should elevate incentive-based methane emission strategies above other state goals, noting that next steps to achieve livestock dairy emission targets "should also be consistent (*to the extent feasible*) with other State objectives"[1] (*emphasis* added). These "other state objectives" presumably include the state's much touted environmental justice and equity goals.

The Analysis focuses primarily on biogas and biomethane, neglecting to sufficiently address the true social and environmental costs of these energy sources, the multibenefit potential of agroecological alternatives, or the potential for meaningful regulatory action. Moreover, CARB's analysis of methane reductions and the effect of incentives on those reductions fails to exclude reductions attributed to pollution trading schemes including the Cap and Trade, LCFS, and the Aliso Canyon settlement, which has the effect of double counting greenhouse gas (GHG) reductions. The Analysis puts forth questionable calculations while simultaneously relying on a

[1] Analysis at 11

seemingly never-ending train of subsidies, trading schemes, and taxpayer and ratepayer-funded incentive programs.

Rather than prop up factory farm dairies with endless subsidies and credit schemes, CARB should analyze and implement methods to regulate methane directly, stop relying on dairy digesters as the primary agricultural methane reduction strategy, and support sustainable, equitable and just alternatives.

Methane reduction strategies from livestock must not rely on the perpetuation of harmful, unsustainable models of animal agriculture.

We strongly oppose the proliferation and expansion of heavily-polluting factory farms and the policy and funding mechanisms that continue to support them, including incentives to capture, convert, and transport dairy methane. Confined animal feeding operations (CAFOs), and particularly large-scale dairies, are located in some of the most environmentally distressed regions of California and exacerbate the already substantial burdens experienced by local communities. Dairy operations are a large source of ammonia and smog-forming volatile organic compounds (VOCs) and a significant source of fine particulate matter in the San Joaquin Valley. These impacts are not addressed by methane digesters. Pollution is not only caused by manure cesspools and enteric emissions from cows, but by feed, transport/trucking, and other dairy operations. Additionally, residents living near dairies are unable to go outside in the evening because of the flies and strong odors caused by the dairies.

Dairies are also a major source of water pollution, causing ubiquitous nitrate contamination in groundwater[2] that local communities rely on to drink and bathe. This water quality degradation is not solved by digesters, particularly as the majority of groundwater pollution comes from overapplication of manure onto cropland. Digested manure, containing the same concentration of nitrate as unprocessed manure, is applied to cropland following the digestion process, and, like unprocessed wet manure applied to fields, leaches into and contaminates groundwater.

Furthermore, dairies require a significant amount of water for growing feed, cows' drinking water, and for other dairy operations and processing, an issue of particular concern as we reckon with an era of increasingly severe and sustained drought. Nineteen percent of the volume of water used per year from global animal production is from the dairy cattle sector.[3]

Biomethane production from dairies and incentives for digesters not only ignore these environmental impacts, but exacerbate them.

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[2] J.P. Cativiela et al., Summary Representative Monitoring Report (Revised*), CVDRMP, at 6 (Apr. 19, 2019), https://www.waterboards.ca.gov/centralvalley/water_issues/confined_animal_facilities/groundwater_monitoring/srmr_20190419.pdf.

[3] Mekonnen, M.M. & Hoekstra, A.Y. (2011) The green, blue and grey water footprint of crops and derived crop products, Hydrology and Earth System Sciences, 15(5): 1577-1600. Retrieved from: https://www.waterfootprint.org/en/resources/waterstat/product-water-footprint-statistics/

First, dairy digesters incentivize dairy operations to generate more methane from manure in order to produce revenue, leading to increased herd sizes that lead to additional enteric emissions, ammonia, VOCs, dust, odor, and truck traffic in local communities.[4] Additionally, more manure means more manure applied to cropland and, thus, more groundwater contamination. For example, recent anaerobic digesters and pipeline infrastructure have been constructed to accommodate expanded herd sizes or attract expanded herd sizes and dairy clusters.[5] Recently, an existing dairy in Atwater, Merced County, initiated the planning process to more than double the size of its current herd from 4,070 to 9,128 cows simultaneously with the installation of a new dairy digester.[6] This dairy received cap-and-trade funds through CDFA's Dairy Digester and Research Development Program in 2019.[7] Thus, incentives for digesters are perversely encouraging the expansion of the unsustainable practices (i.e. large herd sizes, enteric emissions, and manure cesspools) that create methane in the first instance. CARB's Analysis fails to address this risk.

Additionally, biogas increases ammonia emissions from liquefied manure management systems[8], which leads to increased odor, fine particulate matter and other negative impacts. A recent report published in the *Proceedings of the National Academy of Sciences* found that nationally, 12,400 deaths per year were attributable to PM2.5 formed by ammonia from agriculture.[9] Deaths from ammonia-related PM2.5 in California were estimated at 1,690 annually – over thirteen percent of U.S. deaths – with most of them occurring in the San Joaquin Valley.[10] More biogas incentives and production, as CARB's Analysis suggests, will only make this air

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[4] Petition to List Industrial Dairy and Hog Operations as Source Categories Under Section 111(b)(1)(A) of the Clean Air Act, p. 67. https://www.publicjustice.net/wp-content/uploads/2021/04/Climate-Petition-4-6-21-FINAL.pdf

[5] Lakeside Pipeline LLC pilot application, involving an "initial cluster" plan of 10 dairies, encompassing 62,110 cows, notes that the "applicant's future plans include expansions to up to 11 additional dairies (6 digesters)" and contemplates expansion of dairy herd sizes. The Merced Pipeline LLC pilot application incorporates 8 dairies with 39,290 cows, notes that its "project team is already in discussions with the owners of 2 additional dairies," and explains the possibility of "another 11 more potential expansion dairies" and similarly referencing "likely expansions of those dairies[']" herd sizes.

[6] See: https://web2.co.merced.ca.us/boardagenda/2021/20210713Board/271687/271692/271744/271832/ITEM%2032271832.pdf

[7] CDFA Report to the Joint Legislative Budget Committee: Dairy Digester Research and Development Program Report of Funded Program (2015-2020) https://www.cdfa.ca.gov/oefi/ddrdp/docs/DDRDP_Report_March2021.pdf

[8] Ammonia emissions from digestate – manure exiting an anaerobic digester – increased 81% relative to undigested manure. See Holly, et al., Greenhouse gas and ammonia emissions from digested and separated dairy manure during storage and after land disposal, *Agriculture, Ecosystems and Environment* 239 (2017) 410–419, https://www.researchgate.net/publication/313731233_Greenhouse_gas_and_ammonia_emissions_from_digested_and_separated_dairy_manure_during_storage_and_after_land_application

[9] Domingo, et al, Air quality-related health damages of food, PNAS 2021 Vol. 118, No. 20 e2013637118, https://doi.ort/10.1073/pnas.2013637118

[10] Domingo, et al, SI Appendix, Fig. S4 and Table S2, Air quality-related health damages of food, PNAS 2021 Vol. 118 No. 20 e2013637118, https://www.pnas.org/content/suppl/2021/05/06/2013637118.DCSupplemental

pollution crisis worse, including increased ammonia emissions as a direct result of anaerobic digestion. Furthermore, biogas digestate storage also emits significant amounts of VOCs and odorous and hazardous air pollutants.[11] CARB must recognize and analyze these direct harms that follow from dairy digester expansion when evaluating program impacts.

The public funding in the form of tax-payer and rate-payer funds and incentives for dairy biogas production that CARB advances in the Analysis would only perpetuate an unsustainable model of animal agriculture rather than address the root cause of the dairy and livestock industry's methane problem. The methane currently emitted from CAFO dairies is not an inevitable or normally occurring consequence of raising livestock; it is the result of unsustainable management practices including unreasonably large herd sizes, animal confinement, consolidation, and flush-based liquefied manure storage, and a regulatory environment that permits these practices to continue despite their significant air and water quality impacts. Herds raised on pasture, in more manageable numbers, or with dry-handling manure systems can reduce the creation of manure -- and enteric -- methane in the first place. Conversely, biogas subsidies and credit schemes perversely reward the most polluting practices, thereby encouraging the dairy industry to intentionally produce methane and continue to pollute local communities and ecosystems.

Factory farm gas is not clean

The subsidization of dairy digesters and the related infrastructure is premised on the belief that so-called "renewable natural gas" can displace fossil gas as a cleaner alternative. This belief is misplaced. Factory farm gas is neither renewable nor clean. Renewable resources like sunlight and wind are naturally occuring and constantly replenishing, whereas factory farm gas requires human-made livestock practices to continually generate pollution. Additionally, factory farm gas, when combusted, burns just as dirty as conventional gas. Gas is gas. The generation and use of factory farm gas props up the use of fossil fuel infrastructure and delays California's transition to zero emissions.

Factory farm gas, whether combusted on site or transmitted elsewhere, is as dirty as fossil gas. To generate on-farm electricity, operators typically burn biogas with internal combustion engines, which emit significant criteria pollutants, including particulate matter, carbon monoxide, and sulfur dioxide.[12] Biogas combustion also emits ozone-forming criteria pollutants (i.e. nitrogen oxides (NOx)).[13] In fact, twenty biogas systems using internal combustion engines would emit as much ozone-forming (smog) NOx pollution as a modern natural gas-fired power plant, but generate only four percent of the electricity.[14] The Analysis acknowledges these

[11] Y. Zhang et al. *Characterization* of *volatile organic compounds emissions from swine manure biogas digestate storage. 10* Atmosphere 411(2019). Biogas digestate storage emitted 49 compounds of VOCs, including 22 hazardous air pollutants listed by EPA and other odorous compounds.
[12] Cal. State Univ. Fullerton, Air Quality Issues Related to Using Biogas From Anaerobic Digestion of Food Ware 1, 8-9 (2015).
[13] M. Kosuko, et al., Air Quality, Climate & Econ. Impacts of Biogas Mgmt. Technologies 1 (2016).
[14] Cal. Assembly Budget Subcomm. No. 3, Resources & Transportation, *Hearing Agenda*, at 17 (April 19, 2017).

harms and proposes digesters that use fuel cell technology at more than four times the cost and that would continue to rely on gas powered vehicles and gas pipeline networks.

Factory farm gas that is upgraded and injected into fossil gas pipelines has the same composition as fossil gas.[15] When combusted, pipeline quality factory farm gas generates the same emissions as fossil gas. Additionally, when transported by pipeline or truck, a leakage threatens significant additional methane emissions. CARB must not ignore these realities when analyzing the impacts of biogas and dairy digesters. Making more gas is not the solution to reduce California's methane emissions. California, in order to meet emissions goals, must commit to degasification rather than prop up infrastructure that should be retired.

The cost of dairy digesters is prohibitive and reliant on endless public subsidies and problematic credit schemes.

SB 1383 requires CARB to evaluate and implement strategies that reduce methane emissions that are cost effective. While not defined in statute, clearly any evaluation of cost effectiveness must consider how much a given strategy or technology costs. There are many unknowns with regard to factory farm gas technologies and implementation. What is clear is that it is expensive, especially for California taxpayers and ratepayers. According to CARB's analysis (which undercounts already committed subsidies) California has already invested $555 million dollars in dairy digester construction, pipeline interconnection, and other incentives for the development of factory farm gas infrastructure[16]--most of which have directly supported only a few for-profit biogas contractors. This figure does not include $27 million in Aliso Canyon mitigation funds and up to an additional $57 million of other CPUC and CEC incentives to support biogas infrastructure.

Despite these massive public investments, California will not recoup these costs with future savings, as the cost of current and future infrastructure will not be meaningfully less expensive.[17] In fact, the CARB Analysis calls for increased, long-term funding to prop up an artificial market.[18] The Analysis advocates for a "larger initial appropriation of funds" and taxpayer-funded backing of environmental credits for polluting dairies for at least ten years.[19] A strategy that requires massive, increasing public subsidization committed for more than a decade can hardly be considered cost effective. Moreover, most of the digesters that have been publicly financed are not expected to be operational until 2022 or later and the lifespan of a digester is limited once they come online. So it is clear that the State's conclusions on the cost effectiveness of digesters (including the inflated figure on GHG reduction per dollar spent) are largely speculative.

[15] N. Wentworth, A Discussion of the Future of Natural Gas in California 3 (2018).
[16] Analysis at 41.
[17] Analysis at 37.
[18] Analysis at 42.
[19] CARB SB 1383 Pilot Financial Mechanism Paper (November 2018) at 1.

CARB has suggested that up to $3.9 billion for digesters alone could achieve the 2030 target. The proposal to provide capital costs at a rate of $75 million per year for the next 8 years[20] sounds remarkably similar to the call in 2015 and 2016 for the $500 million over five years that dairy industry groups and CDFA said would be needed to reach the 40% reduction target.[21] While that request for $500 million over 5 years in grants for dairy digesters has been *met and surpassed*, reduction targets remain out of reach. Thus, and predictably, another call for hundreds of millions of dollars in public subsidies repeats the same misguided approach.

The bottom line is that factory farm gas is incredbility expensive: approximately 10 times as expensive as fossil gas.[22] The only way that California can create the appearance of marketability of this gas is by continuing to dump massive direct financial subsidies into building digesters and incentives through LCFS and similar programs.[23] Thus, it is nearly impossible for digsters to be considered cost effective under SB 1383.

CARB gives unquestioned preference to dairy digesters and biogas as compared to all other forms of methane reduction

Furthermore, dairy digesters are inaccessible to small-scale dairies that have not concentrated as many cows and cannot make the expensive technology pencil out financially. The average size of a dairy that received funding from the Dairy Digester Research and Development Program in 2018 & 2019 was around 7,000 cows.[24] In determining whether the Alternative Manure Management Program (AMMP) is cost effective, the analysis asserts that CARB simply does not know enough to consider AMMP cost effective.[25] CARB asserts that such emissions reductions are difficult to quantify.[26] California has invested roughly 11 percent of the funds it

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[20] Analysis at 21.

[21] Dairy Cares. "Dairy Industry Voices Grave Concerns About SLCP Plan to State Air Board." California Dairy Research Foundation. May 31, 2016 http://cdrf.org/2016/05/31/dairy-industry-concerns-slcp-arb/ ("The Governor has proposed just $35 million for these projects, far less than the $500 million that CDFA believes is needed to help the industry reach the daunting reduction targets.")
Bartolone, Pauline. "Manure for some, dollars for others" Calmatters. August 11 2015 https://calmatters.org/environment/2015/08/manure-for-some-dollars-for-others/ ("The proposed $20 million is a fraction of the $500 million over five years that the Western United Dairymen requested.")
Wells, Jane. "Dairy farmers in California say anti-flatulence law stinks." CNBC. October, 17, 2016 https://www.cnbc.com/2016/10/17/dairy-farmers-in-california-say-anti-flatulence-law-stinks.html#:~:text=Dairy%20cows%20feed%20in%20Chino%2C%20California.&text=Happy%20cows%20may%20come%20from,industry%20thinks%20the%20regulation%20stinks (Vandenheuvel of the Milk Producers Council "estimates it would cost $500 million to supply enough digesters for the industry, something the dairies can't afford, and Vandenheuvel doubts California taxpayers would want to help subsidize such and effort")

[22] Analysis at ES3.

[23] Analysis at 27. ("Given that the price of fossil natural gas is approximately one tenth that of biomethane, it is uneconomic to utilize biomethane without incentives beyond sale price.")

[24] A Working Paper on the CDFA Dairy Digester Research and Development Program. (April 3, 2019). https://leadershipcounsel.org/wp-content/uploads/2019/04/A-Working-Paper-on-GGRF-Dairy-Digester-Program.pdf

[25] Analysis at 43.

[26] Analysis at 32.

has committed to manure methane emissions reduction projects toward AMMP and roughly 89 percent toward dairy digesters and related infrastructure.[27] This disparity means that California will almost certainly know less about AMMP emission reductions and cost effectiveness. The Analysis also asserts that AMMP "may not be cost-effective due to the lack of revenue streams" and ineligibility for environmental credits.[28] Again, these are the cascading consequences of California's previous investments, not an even-handed analysis of the relative cost effectiveness of these strategies. In truth, by prioritizing the availability of revenue streams for the owners and investors of CAFO dairies, CARB centers dairies' profits over the cost effectiveness for California taxpayers and the social and health costs placed on Californians who live near dairies. To date, California's investments in dairy methane emissions have chosen the "winner" (digesters) and then sought to defend that choice, in spite of all the concerns raised since before SB 1383 was enacted and that are reiterated here.

Nowhere in the Analysis does CARB analyze the methane emission reductions that would likely result from California's dairies transitioning to more sustainable practices that do not create excessive methane in the first instance. As discussed above, packing as many animals as possible into concentrated areas in order to maximize producer and investor profits is a political choice made at the expense of ratepayers, taxpayers, small-scale sustainable dairies, and local communities. If California is truly committed to methane emission reductions, it must consider all available options, including the transition to models of dairy production that do not generate excessive enteric and manure emissions, including more robust efforts towards pastured-based models and non-animal dairy.

<u>The Analysis does not sufficiently analyze the impact of different methane reduction strategies on social equity and local communities.</u>

The Analysis barely addresses any of the negative social costs and externalities associated with the ongoing development of dairy digesters and biogas infrastructure and does not address the impacts of most of the technologies, including biomethane pipeline injection and biomethane for vehicle fuel. As discussed previously, the "benefits" of biogas production do not outweigh the social and environmental costs, which disproportionately impact communities near dairies - communities that are disproportionately lower income and BIPOC communities.

In addition to the steep economic costs of digesters discussed above, biomethane and biomethane production cause a host of air and water quality issues--none of which are discussed in the Analysis. Pursuant to AB 197, CARB is required to disclose and consider public health impacts as part of reviewing their recommendations regarding GHG emission controls. The Analysis does not discuss the public health impacts of increased air pollution, water contamination, and toxic air contaminant emissions from dairy digesters. CARB's estimate of the avoided social cost from dairy methane reduction accounts only for "societal benefits accrued through GHG emissions reductions" (the reductions themselves which are speculative,

[27] Analysis at 41.
[28] Analysis at 44.

as addressed in the previous section) including "changes in human health, net agricultural productivity, property damages from increased flood risk, and changes in energy system costs,"[29] but do not factor in the harms caused directly from the digesters themselves or the expanded and ongoing operations at the CAFO dairies that host them.

Additionally, there is no evidence that local communities actually benefit directly from the installation and operation of a dairy digester. The claim is often that the digesters bring jobs, but we have seen no evidence of quality, lasting jobs that support the existing local community. Only a few[30] digester developers and the industrial, large-scale dairies rake in millions[31], while nearby communities and workers lose out. Plus, since digesters can sell offset credits to polluting industries through Cap and Trade, there is additional local pollution being externalized onto these same communities who purportedly benefit from the technologies, while the industry continues to profit.[32]

CARB's Analysis of methane reductions and private funding supporting those reductions improperly includes reductions utilized by pollution trading schemes.

CARB's estimate of emission reductions from dairy digesters to date relies on projects funded through pollution trading schemes. Such schemes allow polluters to buy reductions attributed to digester projects and keep polluting, with those reductions credited towards that scheme. CARB improperly takes double credit for those same reductions when it analyzes the "reductions" achieved to date and required in the future.

CARB Finding 1-1 attributes 1.9 $MMTCO_2e$ of methane reductions to 123 dairy digester projects.[33] CARB also identifies future reductions needed to meet the 2030 target, and assumes at least 210 digester projects are needed, in combination with AMMP projects, to achieve 4.4 $MMTCO_2e$ of needed methane reductions.[34] CARB reports these figures based on CDFA data. These figures are presented without the assumptions or methodology used to generate them.[35] For these past and future reductions, CARB attributes private funding as an essential component to achieve these reductions, including the pollution trading schemes.[36] CARB acknowledges that the sale of offsets and LCFS credits allows other polluters to claim the reductions and keep polluting:

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[29] Analysis at 16.
[30] For example, only 2-3 digester developers have received *all* of the funding from CDFA's DDRDP for each year the program is funded.
[31] See *Dairy Digester Research and Development Program Report of Funded Projects (2015 – 2020)*. https://www.cdfa.ca.gov/oefi/ddrdp/docs/DDRDP_Report_March2021.pdf, p. 20-29. See also CPUC pilot projects: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M246/K748/246748640.PDF
[32] Analysis at 16. ("A hypothetical 3,000 milking cow dairy supplying transportation fuel could generate approximately $3.5 million in annual LCFS credit value.") This is in addition to federal RIN sales and fuel sales. (see Footnote 21).
[33] Analysis at 10, Table 1.
[34] *Id*.
[35] *Id.* at 11.
[36] *Id*. at 12, 15.

> "In addition to public funding of digester construction costs, incentive funds are available to provide ongoing support to project developers. This includes the BioMAT, the Cap-and-Trade Program, and the LCFS Program. The Cap-and-Trade Program allows dairy digester developers to quantify the methane emissions reductions resulting from the installation of a digester using the CARB Compliance Offset Protocol for Livestock Projects. These methane emissions reductions can generate carbon offset credits that developers can sell to capped entities. The Cap-and-Trade Program is designed to encourage capped entities to reduce their GHG emissions while providing flexibility in how those reductions are achieved. The LCFS Program is designed to reduce the average carbon intensity of transportation fuels in California by incentivizing the production and use of low carbon fuels. Alternative fuels like biomethane generate credits in the LCFS program that can be sold to entities generating deficits for supplying high carbon fuels for sale in California.[37]"

Moving forward, CARB should amend its emissions reductions estimates for any digester project selling offsets, LCFS credits, attributable reductions to the Aliso Canyon mitigation program, or any other pollution trading scheme. CARB should exclude such pollution trading from reduction estimates since those reductions are not additional and are being used to demonstrate compliance with other programs outside of SB 1383. CARB should publicly disclose the data in the final Analysis so that the public can hold the agency accountable to ensure data validity and to avoid CARB double counting reductions.

<u>The Analysis does not sufficiently consider the potential for regulatory actions to further reduce methane emissions from dairies to reach the 2030 goal by decreasing enteric emissions and manure production in the first place.</u>

The Analysis completely ignores the possibility of direct regulation to reduce methane emissions from dairy and livestock, including those related to animal concentration and population. CARB reports that between 2008 and 2017 California's dairy animal population decreased by 0.5 percent.[38] Based on this single piece of information, the analysis extrapolates that certain methane emissions will inevitably result. CARB fails to examine why this population decreased, where it decreased, whether leakage occurred through dairies relocating out of state, and whether regulation to reduce the animal population is a cost effective methane reduction strategy.

It is also important to clarify that even if animal populations are decreasing in aggregate statewide, individual dairies are expanding, intensifying, and clustering, in part in response to the incentives to generate manure for gas production. As discussed above, several dairies include, in their applications for the pilot program, plans to expand their herd size. Dairies also cluster around gas infrastructure in order to benefit from economies of scale. CARB should consider the localized impacts of clustered dairy herd expansion. CARB should also better understand whether its projected animal population reduction has continued with the onset of factory farm gas subsidies.

[37] Analysis at 15.
[38] Analysis at 9.

In order to satisfy its legislative mandate, the Analysis must consider all methane reducing strategies and determine their cost-effectiveness. The Analysis confirms that animal population reductions result directly in methane emission reductions.[39] As such, regulation to pursue this strategy must be considered. Its absence from this analysis is glaring. The CARB Analysis presupposes the indefinite operation of factory farms regardless of their massive methane emissions.

CARB should regulate methane directly and stop relying heavily on dairy digesters and the programs that support them and falsely inflate their benefits.

The Analysis concludes that the barrier to methane reduction in the livestock sector in California is a lack of public funding for dairy digesters and the lack of commercially available enteric emissions reduction options. This conclusion fails to account for the fundamental problem underlying California's methane emissions: California law supports the operation of dairies as CAFOs. These operations concentrate thousands or tens of thousands of cows in order to maximize profits while externalizing many economic, environmental, and social costs. This concentration of animals means concentrated manure often stored in wet manure lagoons emitting massive amounts of methane. Until California's dairy industry transitions away from these polluting practices, it will continue to be responsible for a significant portion of the state's methane emissions.

Toward that end, California should address the problem of methane emissions head on: CARB should regulate methane emissions directly. Heavily polluting CAFO dairies, having chosen a model that externalizes costs onto the public, should bear the cost of mitigation to continue operating in this manner. Most other industries in California require polluters to pay for the environmental damage caused (rather than get paid for it) or at the very least, regulate them for such degradation--but not in the case of factory farm dairies. Rather than subsidizing the technologies that perpetuate these polluting practices, California should invest in transitioning these dairies to more sustainable and just practices. This transition includes, but is not limited to, the development of value-added manure products such as compost.

We support the Analysis' position that CARB should collect annual data that impacts methane emissions, including herd sizes and manure storage conditions.[40] We urge CARB to not only collect this data, but make this data publicly available. This information is vital to track not only methane emissions, but myriad environmental impacts on neighboring communities. It is vital to ensure that methane emissions reduction strategies are having their intended impact rather than incentivizing expanded herds.

Rather than providing cursory lip service to environmental justice, CARB should center environmental justice principles when determining cost effective methane reduction strategies.

[39] *Id*.
[40] Analysis at 46.

This includes the principle of first doing no harm. CARB must ensure that pollution is not concentrated in BIPOC and low-income communities.

Conclusion

We strongly recommend that CARB reassess and update its analysis of the Progress toward Achieving the 2030 Dairy and Livestock Sector Methane Emissions Target to better reflect the unaccounted for negative impacts and externalized costs that exist with current methane reduction strategies, particularly dairy digesters. The Analysis does not sufficiently address or analyze 1) the risk that additional digester incentives could perpetuate harmful, unsustainable models of animal agriculture, 2) the environmental impacts of dairy biomethane production and use on local communities and ecosystems, or 3) policies that CARB could adopt in 2024 that directly regulate methane and incentives to reduce methane through agroecological alternatives that affirmatively improve the health, social, economic wellbeing of local communities and small-scale, sustainable dairies. CARB should stop relying heavily on dairy digesters and the programs that support them and falsely inflate their benefits if California is to find an equitable, just and sustainable way to reduce methane in the livestock and dairy sector.

Sincerely,

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