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California Air Resources Board
Sacramento, CA 95814

Re: Climate Justice Coalition Comments on Feb. 22, 2023 Workshop

The undersigned environmental justice and environmental organizations write jointly to highlight grave concerns about the Preliminary Draft of Potential Regulatory Amendments to the Low Carbon Fuel Standard and Amendment Concepts ("Preliminary Draft"). While we will each submit individual organizational comment letters with further detail, the fates of our communities are linked. Without intervention, the Preliminary Draft will exacerbate harms to lower income communities and communities of color who are disproportionately overburdened by pollution from industrial agriculture, oil refining infrastructure, and fuel combustion at the tailpipe.

1. CARB's Inflated Values for Factory Farm Gas and its Failure to Directly Regulate Methane Emissions from Livestock is Environmental Racism.

CARB must correct the LCFS Carbon Intensity calculations for factory farm gas. Specifically, CARB must end avoided methane crediting; the faulty lifecycle assumptions that exclude upstream and downstream emissions from the production of factory farm gas including enteric emissions and nitrous oxide emissions from composted and land-applied digestate; and the failure to consider that supposed GHG emission reductions from factory farm gas have already been claimed by other programs or are otherwise non-additional to emission reductions that

have otherwise occurred. These calculations overestimate GHG reductions and discount environmental harms.

CARB's proposal to allow avoided methane crediting until 2040 is unjustifiable given that the agency has clear authority to regulate livestock emissions directly starting January 1, 2024.[1] Accordingly, CARB must stop crediting avoided methane as a source of GHG reduction as of January 1, 2024, if not earlier. Furthermore, CARB should apply adjusted Carbon Intensity calculations that eliminate avoided methane crediting to already-approved pathways as of that date.

This practice, alongside other inflationary calculations discussed above, subsidizes and incentivizes the largest livestock operations with the most severe local air pollution impacts in communities already breathing the worst air quality in the nation. Dairy factory farms in California are one of the largest sources of ammonia and volatile organic compounds, and the largest source of nitrate pollution in the groundwater in the region.[2] The zip codes where dairies dominate have percentages of people of color far above, and median incomes far below, the State's average.[3]

It is no small coincidence that some of the companies benefiting most from LCFS credit generation from dairy digester projects are major oil companies, whose oil refineries and co-located[4] fossil gas hydrogen plants also disproportionately pollute low-income communities of color.[5] Inaccurate calculations that create excessively low carbon intensity scores for factory farm gas has far-reaching and dangerous implications for the state's alleged goal of transitioning to clean fuel. For example, oil company reliance on factory farm gas for in and out-of-state

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[1] SB 1383, (2016) "The State Board, in consultation with the department, shall adopt regulations to reduce methane emissions from livestock manure management operations and dairy manure management operations…" CARB's current proposal to award avoided methane credits until 2030, plus a 10-year crediting period through 2040, predetermines in the LCFS that no regulation will be implemented. CARB must not foreclose the possibility of directly regulating livestock methane in the LCFS, because SB 1383 requires separate consultations and determinations which CARB has so far failed to initiate. It is unjust for CARB's failure to timely follow statutory direction to prematurely determine policy direction in the LCFS.

[2] E.g., Ammonia emissions alone—primarily from livestock waste—cause 1,690 deaths per year in California, mostly clustered in the Central Valley. Nina Domingo *et al.,* Air Quality-Related Health Damages of Food (Mar. 18, 2021) SI - Appendix, Fig S4 and Table S2 (Available for download at https://doi.org/10.1073/pnas.2013637118).

[3] Large, industrial dairy operations in the San Joaquin Valley are disproportionately located near low-income and communities of color, especially Latino communities. In California's Central Valley, the percentage of Hispanic residents living within three miles of a large dairy CAFO is 1.54 times higher than the percentage of non-Hispanic whites. *See* Arbor J.L. Quist *et al.,* Disparities of Industrial Animal Operations in California, Iowa, and North Carolina at 5 (2022) https://doi.org/10.1016/j.scitotenv.2022.154823.

[4] Currently most hydrogen in California is produced for oil refineries through Steam Methane Reforming (SMR) hydrogen from fossil gas. *See* California Energy Commission Hydrogen Fact Sheet, June 2021 ("Currently, more than 95 percent of hydrogen is sourced from fossil fuels.").

[5] For example, Shell Energy North America is a major investor in dairy and other methane projects that generate LCFS credits; Chevron has joint ventures with both CalBio and Brightmark to expand its investments in dairy methane projects throughout California; BP and Aria Energy have announced new dairy methane projects.

hydrogen creation allows refineries in some of the most polluted neighborhoods in California to continue polluting while characterizing their fuel as “renewable.”

Staff’s refusal to even acknowledge the body of evidence highlighting the harms of these facilities presented by communities, public interest groups, and academics is appalling. In multiple, well-documented cases and in CARB staff’s full awareness, projects are granted avoided methane credits even when facilities had installed digesters years prior to the existence of the LCFS for onsite generation[6] or funded through programs such as DDRDP, which claim credit for the emission reductions in annual reports to the Legislature.[7] This is an unequivocal instance of double-counting that undermines the State’s climate goals.

CARB’s decision to reinforce its incentive-based approach while ignoring its duty to directly regulate livestock methane despite its knowledge of the significant and disproportionate harm caused by continuing down this path is environmental racism.

2. CARB Should Not Incentivize and Subsidize Dirty Steam Methane Reformation Hydrogen in Refinery Communities

The Preliminary Draft also leaves an unacceptable policy in place: Hydrogen producers can use fossil gas to produce hydrogen through steam methane reformation–a process that emits health-harming pollution in communities that bear the brunt of pollution from California’s oil refineries–and obtain inflated LCFS credits. The Preliminary Draft fails to consider that current steam methane reformation hydrogen plants are largely located in poor communities of color disproportionately overburdened by pollution. Particulate matter (PM2.5) and greenhouse gas emissions have already been *increasing* in communities living next to hydrogen plants and refineries, according to a 2022 report published by the California Office of Environmental Health Hazard Assessment (OEHHA).[8] Right now, refineries are filing permits to *expand* their dirty hydrogen production in these very communities. Rather than increasing an industry practice that harms community health, CARB should encourage in-state direct environmental benefits to improve public health.

The Preliminary Draft actually undermines the market for truly zero-emission hydrogen. The technology for producing zero-emission hydrogen by using wind and solar power to split water molecules is commercially available, but not yet cost competitive with hydrogen produced from fossil fuels. It is absurd that a company that produces hydrogen through the dirty process of steam reformation of fossil gas can reap *more* incentives from the LCFS program than a company that invests in zero-emission hydrogen.

3. CARB Should Cap and Phase Out Crop-Based Biofuels.

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[6] See, e.g. Earthjustice, Appendix A: Sample of Project Applications with Avoided Methane where Baseline was Methane Capture for Onsite Combustion (Dec. 21, 2022) https://www.arb.ca.gov/lists/com-attach/155-lcfs-wkshp-nov22-ws-UTQCZQFyWX4LZQlj.pdf.
[7] CDFA, DDRDP - Report of Funded Projects (2015 - 2022) to the Joint Legislative Budget Committee (Dec. 2021) https://www.cdfa.ca.gov/oefi/ddrdp/docs/2022_DDRDP_Legislative_Report.pdf.
[8] OEHHA, *Benefits and Impacts of Greenhouse Gas Limits on Disadvantaged Communities*. Feb. 3, 2022, https://oehha.ca.gov/environmental-justice/report/ab32-benefits.

Despite the growing body of evidence highlighting the damage of crop-based biofuels to indigenous communities, biodiversity,[9] forest ecosystems,[10] and global hunger,[11] California's LCFS is fueling soy and corn-based oil demand to record levels.[12] Not only do these harms fail to advance the State's ZEV goals, but worse, the record build up of credits from crop-based fuels in the program are depressing credit prices to new lows, undermining funding for crucial electrification projects.[13] The unsustainable rise of crop-based biofuels in the LCFS demonstrates that the current ILUC adjustment is an insufficient safeguard, given the severe and irreversible harms that may be caused. A more precautionary approach that caps high risk feedstocks is necessary.

To implement these limits, CARB should model and adopt the proposals to cap all lipid-based biofuels at current (2020) levels, and then use an updated risk assessment to determine the pace at which caps decline to eventually phase out the role of any high-risk feedstocks. This should include waste and used cooking oils, which can still have significant indirect effects on total food and feed supply, and is subject to the significant risk of producer fraud.[14] Crucially, an updated risk assessment must go beyond updating indirect land use change's greenhouse gas impacts, which, while severe, are far from the only harm posed by expanded use of crop-based fuels.[15]

4. Consistent with SB 905 and SB 1314, CARB Should Pause CCS Project-Based Crediting and Sequence Related Workshops.

It is premature for CARB to approve any CCS projects through the LCFS CCS Protocol, given that CARB has not completed its rulemaking to create a CCS program pursuant to SB 905. Currently, there is no regulatory framework to protect environmental justice communities from the many health and safety risks associated with CCS infrastructure. The California Natural Resources Agency, to our knowledge, has not even provided a proposal to the Legislature (due February 1, 2023) for a framework to *establish* standards that minimize safety risk from pipelines carrying carbon dioxide, and CARB has not held workshops focused on how it proposes to measure and minimize safety and co-pollutant harms. These processes are

[9] Sophie Jane Tudge *et al.*,The Impacts of Biofuel Crops on Local Biodiversity: A Synthesis (June 2021) https://doi.org/10.1007/s10531-021-02232-5.
[10] Xiao-Peng Song, Massive Soybean Expansion in South America Since 2000 and Implications for Conservation (Sept. 2021) https://doi.org/10.1038/s41893-021-00729-z.
[11] Michael Grunwald, Biofuels Are Accelerating the Food Crisis - And the Climate Crisis Too (Apr. 2022) https://www.canarymedia.com/articles/food-and-farms/biofuels-are-accelerating-the-food-crisis-and-the-climate-crisis-too.
[12] Sara Schafer, Fuel the Crush: Renewable Diesel Pumps Up Soybean Demand (Oct. 15, 2021) https://www.agweb.com/news/crops/soybeans/fuel-crush-renewable-diesel-pumps-soybean-demand.
[13] "New credits have exceeded deficits for six consecutive quarters…Renewable diesel remained the leading source of new credits." Argus Media, "California Posts New Record LCFS Credit Build: Update" (Jan. 31, 2023) https://www.argusmedia.com/en/news/2414974-california-posts-new-record-lcfs-credit-build-update.
[14] *See* Jane O'Malley et al., Setting a Lipids Fuel Cap Under the California Low Carbon Fuel Standard (Aug. 2022) https://theicct.org/wp-content/uploads/2022/08/lipids-cap-ca-lcfs-aug22.pdf.
[15] *See*, Jeremy Martin, Union of Concerned Scientists Comments on the November 9th Workshop (Dec. 21, 2022) at 2 https://www.arb.ca.gov/lists/com-attach/93-lcfs-wkshp-nov22-ws-UCVVMAZ0VVkKblM6.pdf.

necessary for communities to vet the State's proposed CCS safety protocols, even if they alone are unlikely to sufficiently prevent harm from CCS project approvals.

We are alarmed to hear that CARB Staff are currently considering allowing LCFS credit-generating opportunities to continue for enhanced oil recovery projects ("EOR") if the EOR takes place out of state. Through SB 1314 and SB 905, the Legislature prohibited operators from injecting CO2 produced from a carbon capture project into a Class II well for purposes of EOR. This vital community protection enshrined in state law should not protect only Californians while the state pays out-of-state actors to violate that same protection in other communities. Further using captured carbon for EOR increases net emissions from a CCUS project by a factor of four.[16] It is bad enough that CCUS projects threaten to prolong and extend fossil fuel extraction and combustion, but it is utterly obvious that climate programs should not be quadrupling our carbon emissions and incentivizing more fossil fuel development. In SB 1314, the legislature found that the purpose of CCUS should be "to facilitate the transition to a carbon-neutral society and not to facilitate continued dependence on fossil fuel production." Regardless of any debate as to the place of CCUS in the transition to a decarbonized society, CARB must at a minimum follow the direction of the Legislature and common sense and stop incentivizing increased dependence on fossil fuels–while increasing carbon emissions–by prohibiting the use of captured carbon for EOR in the LCFS.

5. CARB Must No Longer Ignore Requests for Environmental Justice Engagement on the LCFS.

We urge CARB to ensure that modeling scenarios are updated to include environmental justice considerations, such as the ones highlighted above. To do so, CARB should hold at least one workshop with scenarios that address environmental justice concerns and include dialogue with affected environmental justice communities. We urge CARB Staff to immediately resolve this omission by hosting a dedicated workshop covering how CARB Staff can address environmental justice concerns raised by communities and public interest organizations in this rulemaking.

The impression left by the most recent workshop is that CARB Staff is not even nominally considering environmental justice concerns in this rulemaking. Neither CARB's "Objectives for Rulemaking" slide nor the "Biomethane Crediting | Guiding Principles" mention environmental justice or public health, despite well-documented and repeatedly raised EJ issues related to the LCFS in general and biomethane crediting in particular. During public comment, Staff frequently provided direct responses to concerns and objections raised by industry stakeholders, but provided no response to points repeatedly raised by EJ and community stakeholders. This silence is incredibly disheartening, and confirms that general workshops are not fit for hearing and addressing EJ feedback.

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[16] *See* Garcia, Freites. S. & Jones, C. (2021) A Review of the Role of Fossil Fuel-Based Carbon Capture and Storage in the Energy System, Tyndall Centre, https://www.research.manchester.ac.uk/portal/files/184755890/CCS_REPORT_FINAL_v2_UPLOAD.pdf; Jaramillo, Paulina et al. (2009) Life Cycle Inventory of CO2 in Enhanced Oil Recovery System. Environmental Science & Technology, https://pubs.acs.org/doi/10.1021/es902006h.

It is inexcusable that CARB Staff have ignored repeated requests for an environmental justice workshop on the Low Carbon Fuel Standard. Across the fuel supply chain – from extraction to refining to combustion – low income communities of color suffer the most from California's current transportation system and the current LCFS regime. To facilitate meaningful engagement, we urge CARB to design an environmental justice workshop in consultation with community-based EJ groups–and the permanent EJ Advisory Committee, to cover the issues that are relevant to our communities and achieve CARB's equity goals.

Sincerely,

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