

February 20, 2024

Via electronic submittal

Chair Liane Randolph and
Members of the Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814
cotb@arb.ca.gov

Re: CBE Comments on the Proposed 2024 Low Carbon Fuel Standard Regulation

Dear Chair Randolph and Members of the Board:

Communities for a Better Environment (“CBE”) writes in opposition to the Proposed 2024 Low Carbon Fuel Standard (“LCFS”) Regulation. CBE is an Environmental Justice (“EJ”) organization, representing East Oakland, Wilmington, Richmond, Southeast Los Angeles, and surrounding communities, heavily impacted by fossil fuel pollution from mobile sources, oil refineries and drilling operations, power plants, and many other sources.

CBE supports the recommendations provided to CARB by the Environmental Justice Advisory Committee.¹ CBE has also submitted comments alongside other EJ organizations titled “Climate and Environmental Justice Organizations Recommendations for the LCFS,” and we support the full set of demands included in that letter. This comment focuses on a more specific set of issues that are highly important for California communities living alongside oil refineries and other fossil fuel infrastructure.

The Low Carbon Fuel Standard, one of the most consequential regulations serving California’s climate targets, must follow the requirements and principles of California’s climate laws. AB 32 instructs CARB to design greenhouse gas emission reduction measures “in a manner that is equitable [and] seeks to minimize costs and maximize the total benefits to California,”² and ensure that these measures “do not disproportionately impact low-income communities”³ or interfere with “efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.”⁴

Unfortunately, the proposal described in the Initial Statement of Reasons (“ISOR”) does not follow these statutory requirements. This comment provides detail on the following reasons why CARB must make critical changes to the proposal:

¹ *Assembly Bill 32 Environmental Justice Advisory Committee Recommendations to the California Air Resources Board on the Low Carbon Fuel Standard Regulation Updates* (Aug. 28, 2023), <https://ww2.arb.ca.gov/sites/default/files/2023-08/EJAC%20DRAFT%20Low%20Carbon%20Fuel%20Standard%20Recommendations%20Version%202%20082823.pdf>.

² CAL. HEALTH & SAFETY CODE § 38562(b)(1).

³ CAL. HEALTH & SAFETY CODE § 38562(b)(2).

⁴ CAL. HEALTH & SAFETY CODE § 38562(b)(4).

- The proposal’s incentives for biofuel consumption, particularly renewable diesel, will interfere with efforts to reduce pollution in oil refinery communities and will create new health and safety risks in those communities.
- The ISOR’s analysis of the proposal and regulatory alternatives overlooks important evidence that would result in lower estimated climate and health benefits from biofuels. Including this evidence would likely increase the estimated benefits of a cap on crop-based biofuels.
- A cap on crop-based biofuels would also better achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions.
- The proposed guardrails for biofuels will not address the most important land use change risks from biofuels, and CARB needs better analysis to measure the land use change effects of internationally sourced feedstocks.
- Without a rapid phaseout of avoided methane crediting and biomethane combustion crediting for livestock manure, these credits will increase pollution in communities already deeply burdened by fossil fuel pollution.
- Credits for carbon capture and sequestration projects at oil refineries have no economic or technological justification and will worsen air pollution and safety risks.
- CARB’s choice to increase program stringency rather than restrict supply of combustion fuels will disproportionately harm low-income communities due to higher program costs and missed opportunities to expand access to zero emission transportation options.
- Additionally, CARB’s CEQA analysis is inadequate and must be corrected before CARB finalizes the regulation.

We request that the Board direct CARB staff to substantially revise the proposal and its accompanying CEQA documents. Additionally, in consideration of the fact that the proposal includes significant changes from what was presented at public workshops and at the September 2023 Board meeting, CBE requests that the CARB Board hold an additional, non-voting meeting to discuss the LCFS proposal, prior to the final vote.

Below, we provide detailed comments on the problems in this proposal and explain how CARB should correct the proposal to align with the requirements of AB 32.

I. THE PROPOSAL’S INCENTIVES FOR BIOFUELS VIOLATE STATUTORY REQUIREMENTS AND ARE BASED ON INACCURATE ANALYSIS.

The proposal violates sections 38560, 38562(b), and 38562(d) of the California Health & Safety Code because it fails to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions, fails to design the LCFS in a manner that is equitable, fails to ensure that compliance activities complement efforts to attain air quality standards and do not disproportionately impact low-income communities, and fails to achieve real greenhouse gas emission reductions that are in addition to those otherwise required by law.

First, the proposal will disproportionately impact low-income communities and interfere with efforts to attain air quality standards by incentivizing production of biofuels with serious

health impacts in environmental justice communities. The proposal will encourage renewable diesel to become the most important fuel in the LCFS, and it does not adequately address the major climate and health risks of this fuel. Renewable diesel is already dominating the program: in the first three quarters of 2023, renewable diesel alone earned nearly 40% of the total program credits, and it earned 1.6 times more credits than electricity.⁵ Production of renewable diesel and other biofuels is largely taking place in refinery communities and interfering with much-needed efforts to achieve air pollution improvements in these environmental justice communities. Further increases in renewable diesel consumption under this proposal will extend and deepen refinery pollution burdens.

Second, the analysis in the ISOR has several important omissions that cause CARB to overestimate the climate and air quality benefits of biofuels and thus overestimate the overall benefits of the proposal. Specifically, CARB did not consider the effects of biofuel reshuffling under the federal Renewable Fuel Standard. This omission results in inaccurate emission estimates, and it also conflicts with CARB's duty to ensure that emission reductions are real and in addition to those otherwise required by law. Additionally, CARB overlooked a federal Environmental Protection Agency study and other evidence that raise uncertainty about the climate intensity benefits of soybean-based diesel, and it failed to consider a study that it commissioned about the air pollution impacts of biomass-based diesel combustion. CARB should remedy these omissions and reassess the proposal as well as the regulatory alternatives that were rejected.

Third, CARB should take a step toward addressing biofuels' climate and health problems by putting a cap on credits for crop-based biofuels at 2020 energy levels and conducting a risk assessment of biofuel feedstocks. This measure will better serve CARB's statutory mandate of achieving maximally technologically feasible and cost-effective emission reductions by boosting incentives for truly clean, scalable technologies including electrification. It is also critical for addressing the harms of biofuel refining as well as its global deforestation and food security risks.

Fourth, in addition to placing a cap on crop-based biofuels, CARB should take further steps to protect against high-risk biofuel feedstocks. The "guardrails" included in the proposal will not address the risks of indirect land use change from crop-based biofuels. One basic step CARB should take is to calculate land use change effects for each region that provides imported crop-based feedstocks in the program.

Addressing these serious problems in the proposal will make the LCFS more sustainable, equitable, and aligned with the requirements of AB 32.

A. The lack of meaningful safeguards on biofuels disproportionately burdens low-income communities of color and interferes with efforts to attain air quality standards.

⁵ CAL. AIR RESOURCES BD., 2023 LCFS REPORTING TOOL (LRT) QUARTERLY DATA SUMMARY REPORT NO. 1 (2024).

AB 32 requires that CARB, in adopting regulations to achieve greenhouse gas emission reductions, design the regulation “in a manner that is equitable”⁶ and ensure that activities undertaken to comply with those regulations “do not disproportionately impact low-income communities.”⁷ CARB must also ensure that compliance activities “complement, and do not interfere with, efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminant emissions.”⁸ By incentivizing the continued, unrestricted growth of biofuel production and consumption, the proposal fails to follow these legislative mandates.

1. LCFS biofuel incentives are extending pollution burdens in oil refinery communities.

The LCFS is undermining much-needed cleanup of pollution in refinery communities. LCFS biofuel incentives are driving rapid increases in California renewable diesel production, and the most significant expansions in renewable diesel production capacity are occurring at oil refineries.⁹ Renewable diesel production is expected to accelerate under CARB’s proposal, and additional refinery conversions are likely. In CARB’s 2022 Scoping Plan, it began planning for a phasedown in oil and gas refining by 2045.¹⁰ This phasedown would create major pollution relief in overburdened communities via direct reductions in refinery emissions and associated reductions in truck, rail, and marine pollution; however, this desperately needed relief is unlikely to come if oil refineries are instead revamped to produce biofuels.

Oil refineries are generally located in areas with higher pollution burdens that are largely comprised of low-income households and people of color, due in part to a history of racist housing discrimination. Three refinery biofuels conversions—Phillips 66 Rodeo, Marathon Martinez, and Altair Paramount—provide illustrative examples. The first two are within the San Francisco Bay Area Air Basin, which is out of attainment with state standards for particulate matter (PM10), fine particulate matter (PM2.5), and ozone.¹¹ The cities of Rodeo and Martinez contain environmental justice communities where residents are disproportionately burdened by pollution and vulnerable to health risks. According to CalEnviroScreen, residents in the census tract closest to the Phillips 66 refinery experience a pollution burden greater than 86 percent of census tracts in the state.¹² For the census tracts nearest the Marathon refinery, their pollution burden is greater than 82–91 percent of state census tracts.¹³ Communities near these refineries

⁶ CAL. HEALTH & SAFETY CODE § 38562(b)(1).

⁷ CAL. HEALTH & SAFETY CODE § 38562(b)(2).

⁸ CAL. HEALTH & SAFETY CODE § 38562(b)(4).

⁹ Jeremy Martin, *Everything You Wanted to Know About Biodiesel and Renewable Diesel. Charts and Graphs Included*, THE EQUATION (Jan. 10, 2024), <https://blog.ucsusa.org/jeremy-martin/all-about-biodiesel-and-renewable-diesel/>.

¹⁰ *California’s 2022 Climate Change Scoping Plan Fact Sheet*, California Air Resources Board (Jun. 16, 2022), <https://ww2.arb.ca.gov/resources/fact-sheets/californias-2022-climate-change-scoping-plan-fact-sheet#:~:text=The%20Draft%202022%20Scoping%20Plan,and%20gas%20extraction%2C%20and%20refining.>

¹¹ *Air Quality Standards and Attainment Status*, BAY AREA AIR QUALITY MGMT. DIST., <https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status> (last visited Feb. 9, 2024).

¹² CalEnviroScreen 4.0, CAL. OFF. ENV’T HEALTH HAZARD ASSESSMENT, https://experience.arcgis.com/experience/11d2f52282a54cee6184203/page/CalEnviroScreen-4_0/?org=OEH (last visited Feb. 9, 2024) (search for census tract 6013358000).

¹³ *Id.* (last visited Feb. 9, 2024) (search for census tracts 6013320001, 6013320004, and 6013315000).

experience increased rates of asthma and cardiovascular disease, and newborns born near the refineries have increased risk of low birthweight.¹⁴ Both the Rodeo and Martinez refinery communities are designated as “disadvantaged communities” by the California Environmental Protection Agency under SB 535.¹⁵

Encouraging major oil refineries to produce large volumes of renewable diesel conflicts with CARB’s statutory requirement to complement efforts to attain air quality standards and its duty to avoid disparate harms in low-income communities and communities of color. The experiences at Phillips 66 Rodeo, Marathon Martinez, and AltAir Paramount refineries provide examples of how biofuel refining extends existing pollution and creates new harms in disadvantaged communities.

Marathon Martinez and Phillips 66 Rodeo together account for a major share of the new renewable diesel capacity coming online in 2023 and 2024.¹⁶ The Marathon Martinez oil refinery suspended operations in 2020 and was shut for several years before it reopened as a biofuel refinery. In the Environmental Impact Report for the conversion project, the county estimated that the biofuel refinery would require 180 diesel truck trips through the area per day, 63 railcars per day (an increase compared to the oil refinery due to the transport of biofuel feedstocks), and 400 marine vessels per year (also an increase compared to the oil refinery).¹⁷ Looking at cumulative impacts on air pollution, the county found that the conversion would have a significant and unavoidable impact on PM_{2.5} exposure for residents and workers in the area.¹⁸ Similarly, the Phillips 66 Rodeo refinery conversion is estimated to have significant impacts on pollution-causing activities. The refinery is now one of the largest biofuel refineries in the world. The Environmental Impact Report for the conversion found that the refinery’s increased need for delivery of feedstocks would cause marine and rail traffic to increase substantially compared to when the refinery processed oil: rail car unloads per day would increase from 4.7 to 16, and tanker vessel and barge calls per year would more than double.¹⁹ The refinery requires approximately 16,000 diesel truck trips per year.²⁰

While Phillips 66 Rodeo and Marathon Martinez are two of the biggest biofuel producers in the state, they are hardly the only facilities creating biofuel pollution in oil refinery communities. In another stark example of environmental injustice, the Paramount refinery in

¹⁴ *Id.*

¹⁵ *SB 535 Disadvantaged Communities*, CAL. OFF. ENV’T HEALTH HAZARD ASSESSMENT, <https://oehha.ca.gov/calenviroscreen/sb535> (last visited Feb. 9, 2024) (see “Disadvantaged Communities Map” and search for census tracts 6013358000, 6013320001, 6013320004, and 6013315000).

¹⁶ Phillips 66 Rodeo and Marathon Martinez have nameplate capacities of 680 and 480 million gallons per year, respectively, making them two of the largest renewable diesel producers in the state. Maria Gerveni & Scott Irwin, *Overview of the Production Capacity of U.S. Renewable Diesel Plants for 2023 and Beyond*, FARMDOCDAILY (Mar. 29, 2023), <https://farmdocdaily.illinois.edu/2023/03/overview-of-the-production-capacity-of-u-s-renewable-diesel-plants-for-2023-and-beyond.html>.

¹⁷ Contra Costa Cnty. Dep’t of Conservation and Dev., *Draft Environmental Impact Report Vol. I (County File# CDLP20-02046)*, at 2-36–38 (Oct. 2021), <https://www.contracosta.ca.gov/DocumentCenter/View/72957/Martinez-Refinery-Renewable-Fuels-DEIR-Vol-1-Complete-DEIR>.

¹⁸ *Id.* at 3.3-40.

¹⁹ Verified Petition for Writ of Mandate at 13, *Communities for a Better Environment v. County of Contra Costa*, Contra Costa County Superior Court, Case No. N22-1091 (2023).

²⁰ *Id.*

Paramount, California took small steps toward producing biofuels in 2013, after it had ceased processing crude oil and gone idle in 2011.²¹ In 2018, the refinery proposed a plan to substantially expand its operations to 25,000 barrels per day of biofuel feedstock throughput (up from 3,500 barrels per day). The City of Paramount is majority people-of-color and is considered an environmental justice community, where residents are exposed to a range of industrial pollutants, including the highest levels of hexavalent chromium (a cancer-causing air toxin) in Los Angeles County.²² Paramount is in the South Coast Air Basin, which is in “extreme” non-attainment of many federal air quality standards, including ground-level ozone.²³ The Environmental Impact Report for the expansion project estimated that the expanded refinery would release 1,743 pounds of VOCs and 2,133 pounds of NOx emissions per day, and it would require 50 rail car unloads per day and 540 diesel truck trips.²⁴ The Paramount refinery demonstrates how biofuel incentives can encourage previously shuttered oil refineries to expand refining operations, even when they are located within environmental justice communities that already face air pollution levels far beyond what is considered safe for human health.

These refinery conversions make it clear that, contrary to CARB’s assertions in the LCFS proposal, biofuels are not delivering the air quality improvements needed in heavily polluted environmental justice communities. Without serious safeguards to limit the growth of biofuel production in California, communities living near refineries—often in areas that are already severely out of attainment with state and federal air quality standards—will be stuck with refinery pollution for decades longer.

2. The proposal fails to recognize evidence of new health and safety risks associated with biofuel refining.

The existing biofuel conversions have also demonstrated that biofuel refining creates new health and safety risks for local communities, which CARB does not recognize in the proposal. Biofuel refining may require more intensive use of hydrogen compared to fossil fuels, which can cause more frequent flaring hazards.²⁵ This is supported by site-specific evidence: since the Marathon Martinez facility reopened as a biofuel refinery in late 2022, there have been over 46 flaring incidents reported by the refinery.²⁶

²¹ Verified Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief at 11, *Communities for a Better Environment v. City of Paramount*, Los Angeles County Central District Superior Court, available at https://climatecasechart.com/wp-content/uploads/case-documents/2022/20220516_docket-na_petition-for-writ-of-mandate.pdf.

²² *Id.* at 8.

²³ *Id.* at 8.

²⁴ *Id.* at 12–13.

²⁵ *Phillips 66 Rodeo Renewed Project (File No. LP20-2040) – comment concerning draft environmental impact report* at 38, submitted by Communities for a Better Environment and other environmental organizations (Dec. 17, 2021), available at https://www.nrdc.org/sites/default/files/rodeo_renewed_deir_comment.pdf; see also Katie Lauer, *Biofuel is poised to usurp crude oil refining in the Bay Area. But are their ‘renewable’ fuels a green solution or ‘greenwashing’?*, EAST BAY TIMES (Feb. 4, 2024), <https://eastbaytimes.com/2024/02/04/biofuel-is-poised-to-usurp-crude-oil-refining-in-the-bay-area-but-are-their-renewable-fuels-a-green-solution-or-greenwashing/>.

²⁶ *Health officials conduct surprise inspection at Martinez refinery after recent incidents*, ABC7 NEWS (Dec. 26, 2023), <https://abc7news.com/martinez-refining-company-surprise-inspection-refinery-flaring-air-quality/14228185/>.

The Martinez refinery has also had an alarming number of health and safety emergencies. In a 2022 incident that the refinery failed to report, it released 20 to 24 tons of spent catalyst chemicals into the community, where residents found dust containing heavy metals settled onto front yards and vehicles.²⁷ In November 2023, the refinery had two major fires that refinery officials described as “facility-wide emergencies;” one of these fires resulted in life-threatening injuries for a refinery worker and released over 200,000 pounds of renewable diesel fuel.²⁸ These incidents have triggered a federal investigation by the U.S. Chemical Safety Board and led the Contra Costa Health department and Bay Area Air Quality Management District to conduct a surprise inspection at the facility, and local health officials have publicly expressed concerns about the frequency of safety incidents at the refinery since reopening.²⁹

Despite this clear evidence that producing biofuels at oil refineries can create serious, under-studied health and safety risks, CARB’s proposal has not acknowledged these risks nor accounted for them in its analyses of the proposal and the regulatory alternatives.

B. The proposal, and CARB’s rejection of the regulatory alternatives, relies on incomplete analysis that overstates the climate and air quality benefits of biomass-based diesel.

CARB overestimates the benefits of the proposal by disregarding evidence that would lower the calculated benefits of biomass-based diesel. First, the proposal does not consider the reshuffling of biofuel consumption into California under the federal Renewable Fuel Standard, and a fairer accounting of emissions reductions attributable to the LCFS would result in fewer climate benefits. Second, CARB has not considered evidence that land use change effects of crop-based biofuels are likely greater than what CARB’s modeling estimates. Third, the proposal overlooks a recent study, commissioned by CARB, that suggests biomass-based diesel has fewer air quality benefits than previously estimated.

A more thorough analysis of the climate and air quality impacts of biomass-based diesel would likely affect the comparison of regulatory alternatives. CARB compares the proposal to “Alternative 1,” a scenario with lower carbon intensity stringency and a cap on crop-based biofuels, and to the “Comprehensive Environmental Justice Scenario,” which involves a cap on crop-based biofuels and limits on livestock biogas. CARB concludes that the proposal performs better than these two alternatives in part because the proposal displaces more fossil diesel with biomass-based diesel, which creates improvements in greenhouse gas emissions and air pollution. Given that CARB’s dismissal of these regulatory alternatives relies heavily on the climate and air quality benefits of biomass-based diesel, CARB must update its analysis of the proposal and the comparison to regulatory alternatives.

²⁷ *Id.*

²⁸ Ted Goldberg, *Federal Agency Probes Marathon’s Martinez Refinery After Two Large Fires Last Month*, KQED (Dec. 5, 2023), <https://www.kqed.org/news/11968786/recent-fires-at-marathons-martinez-refinery-spark-major-safety-concerns>.

²⁹ *Id.*; ABC7 NEWS, *supra* note 26.

1. The proposal overlooks the effects of biofuel reshuffling under the federal Renewable Fuel Standard, in violation of CARB’s duty to ensure emission reductions are additional.

CARB’s analysis of the greenhouse gas emissions reductions associated with increasing biomass-based diesel consumption takes credit for reductions that should be attributed to the federal Renewable Fuel Standard (“RFS”). The LCFS is not the only law that incentivizes production of biofuels. The federal RFS mandates production of increasing volumes of biomass-based diesel; it also allows for credit trading across regions, wherein overcompliance in one region can be used to offset undercompliance in another region. The interaction between the LCFS and federal RFS encourages biofuel producers to concentrate consumption in California because they can take advantage of the added LCFS incentives here.³⁰ This has led to California consuming an increasingly large share of the country’s biodiesel and renewable diesel, and in 2022 California consumed half of all the biomass-based diesel consumed in the U.S.³¹ Meanwhile, consumption outside California is declining.³² This dynamic means that a share of the biomass-based diesel consumption that CARB attributes to the LCFS is actually reshuffled from other states, where it would be consumed anyway due to the federal RFS.

CARB avoided this double counting problem in previous rulemakings by conducting an attribution analysis, but it provides no explanation why it removed the attribution analysis in this proposal. In the 2018 LCFS rulemaking, CARB calculated the greenhouse gas emissions reductions attributable to the LCFS in order to count only reductions where “complying with the LCFS can be argued to be the primary reason for the action.”³³ For biomass-based diesel, CARB only gave attribution to the LCFS for products with a carbon intensity below what the federal RFS required. Under this attribution analysis, CARB rightly took credit only for the emissions reductions that were additional to what the federal RFS required; consequently, the emissions reductions associated with biomass-based diesel were reduced. In the current proposal, CARB provides no attribution analysis and does not account for the LCFS program’s interaction with the federal RFS. The result of CARB’s backsliding is that emission reductions associated with biomass-based diesel appear larger than they should.

This faulty analysis not only overestimates the benefits of the proposal; it also conflicts with CARB’s statutory requirement to ensure that emission reductions are additional. CARB must ensure that any greenhouse gas emission reductions achieved are “real”³⁴ and are “*in addition to* any greenhouse gas emission reduction otherwise required by law or regulation, and

³⁰ Jeremy Martin, *A Cap on Vegetable Oil-Based Fuels Will Stabilize and Strengthen California’s Low Carbon Fuel Standard*, THE EQUATION (Jan. 30, 2024), <https://blog.ucsusa.org/jeremy-martin/a-cap-on-vegetable-oil-based-fuels-will-stabilize-and-strengthen-californias-low-carbon-fuel-standard/>.

³¹ *Id.*

³² Martin, *supra* note 9 (“Rising California consumption has come partly at the expense of biodiesel consumption elsewhere in the US, which fell 28% percent in 2022 compared to its peak in 2016.”).

³³ CAL. AIR RES. BD., *Appendix F to Initial Statement of Reasons: Methodologies for Estimating Potential GHG and Criteria Pollutant Emissions Changes Due to the Proposed LCFS Amendments*, F-13 (Mar. 6, 2018), https://www.arb.ca.gov/regact/2018/lcfs18/appf.pdf?_ga=2.136358512.1729481274.1707759900-1149230758.1693940701.

³⁴ CARB must ensure that “[t]he greenhouse gas emission reductions achieved are real, permanent, quantifiable, verifiable, and enforceable.” CAL. HEALTH & SAFETY CODE § 38562(d)(1).

any other greenhouse gas emission reduction that otherwise would occur.”³⁵ By removing its attribution analysis for reductions associated with biomass-based diesel consumption, CARB has provided inflated emission reduction estimates. It takes credit for emission reductions that, without the LCFS, would occur anyway in other states due to the federal RFS production requirements. This constitutes a failure to ensure emission reductions are real and additional to reductions that are already required by law and would otherwise occur.

2. The proposal underestimates the risks of land use change effects from increased production and import of biofuel feedstocks.

CARB underestimates the climate harm of crop-based fuels and thereby over-incentivizes biofuels. The asserted climate benefits of the proposal are based in part on the carbon intensity advantages that biomass-based diesel has over fossil diesel; however, CARB’s analysis is rooted in an incomplete evaluation of the climate impacts of biomass-based diesel. These climate impacts are highly dependent on a) the feedstocks used to produce biomass-based diesel and b) where those feedstocks come from. Biomass-based diesel in California is increasingly produced from virgin vegetable oil, primarily soybean oil,³⁶ and producers are starting to import soybean oil from South America.³⁷ These crop-based feedstocks have numerous harmful effects, including climate impacts from deforestation, loss of indigenous lands, and increased food insecurity. The proposal, which allows crop-based biofuels to grow unchecked, will accelerate these effects. It is therefore especially important for CARB to accurately estimate the land use change effects of crop-based feedstocks.

The proposal overlooks evidence suggesting that the land use change impacts of crop-based feedstocks are greater than CARB estimates. CARB estimates land use change effects using the Global Trade Analysis Project (“GTAP”) model, but this is just one of several global economic and land use models available. The federal Environmental Protection Agency (“EPA”) recently published a “Model Comparison Exercise,” which evaluates the climate impacts of an increase in soybean oil-based biodiesel using three different models, including GTAP.³⁸ Only the GTAP model found that displacing fossil diesel with soybean diesel led to lower greenhouse gas emissions, and the other two models found that soybean biodiesel could emit *more* greenhouse gas than fossil diesel due to deforestation.³⁹ This EPA publication suggests, at the very least, that the GTAP model may be seriously underestimating the land use change effects of crop-based feedstocks.

The proposal also appears to calculate land use change effects based on feedstock production shocks occurring in the U.S., which does not reflect land use change effects of imported feedstocks. CARB has already approved fuel pathways for a major biofuel producer,

³⁵ Emphasis added. CAL. HEALTH & SAFETY CODE § 38562(d)(2).

³⁶ *Initial Statement of Reasons* 32 (“the use of crop-derived, biomass-based diesel has increased in recent years”); see also Martin, *supra* note 30.

³⁷ See Martin, *supra* note 30.

³⁸ U.S. ENV’T PROTECTION AGENCY, MODEL COMPARISON EXERCISE TECHNICAL DOCUMENT (2023), <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1017P9B.pdf>.

³⁹ Dan Lashof, *EPA’s New Renewable Fuel Standard Will Increase Global Carbon Emissions – Not Lower Them*, WORLD RESOURCES INST. (Jul. 3, 2023), <https://www.wri.org/insights/us-renewable-fuel-standards-emissions-impact>.

Phillips 66, to produce biofuels from soybean oil imported from Argentina,⁴⁰ and imports from South America are likely to accelerate under the proposal. Land use change effects vary by region due to specific domestic economic factors and trade dynamics, and South American soybean oil presents particularly strong deforestation risks.⁴¹ One study that looked at soybean oil cultivation in Brazil found that its direct and indirect land use change impacts could outweigh the carbon benefits of replacing fossil diesel.⁴² By focusing its land use change analysis on U.S. feedstock production shocks, CARB is underestimating the carbon intensity of the feedstocks that this proposal will incentivize. Given that CARB provides credits to biofuels sourced from imported crop-based feedstocks, the proposal's failure to thoroughly evaluate land use changes by region produces indefensibly inaccurate carbon intensity estimates.⁴³

Underestimation of the land use change effects of biofuels can have catastrophic consequences. In South America, deforestation linked to soybean farming is destroying critical tropical forests like the Gran Chaco Forest in Argentina and Paraguay, which is one of the biggest carbon sinks in the world, provides a critical habitat for thousands of plant and animal species, and is an ancestral home to many Indigenous communities. The proposal's incentives for soybean oil cultivation will do permanent damage to these critical natural and cultural resources.

3. The proposal does not consider recent evidence that air quality impacts from biomass-based diesel are higher than previously estimated.

By overlooking recent evidence about biomass-based diesel combustion emissions, the proposal overestimates the air quality benefits of biomass-based diesel. A 2021 study prepared for CARB evaluated the NOx and PM emissions from biomass-based diesel used in legacy and new technology diesel engines.⁴⁴ It found that the air quality benefits of using renewable diesel in legacy engines did not occur in new technology diesel engines.⁴⁵ Given that CARB has taken steps to require use of new technology diesel engines, this study shows that the emissions benefits of using biomass-based diesel in on-road fleets are uncertain and likely overestimated. CARB must account for this study in its evaluation of the proposal and the regulatory alternatives.

4. The emission factors used for biofuel production are likely not characteristic of biofuel production in California.

⁴⁰ Low Carbon Fuel Standard Tier 2 Pathway Application No. B0520, Phillips 66 Rodeo (certified Dec. 26, 2023), https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/tier2/b0520_cover.pdf.

⁴¹ *Comments on Tier 2 Pathway Application No. B0520*, submitted by Communities for a Better Environment (Dec. 13, 2023), available at <https://ww2.arb.ca.gov/public-comments/lcfs-fuel-pathways-public-comments/webform/submission/7151>.

⁴² David M. Lapola et al., *Indirect land-use changes can overcome carbon savings from biofuels in Brazil*, 107 PNAS 3388 (2010), <http://www.pnas.org/content/107/8/3388.full.pdf+html>.

⁴³ *See Comments on Tier 2 Pathway Application No. B0520* at 2–3, submitted by University of California, Davis Policy Institute for Energy, Environment, and the Economy (Dec. 13, 2023), available at <https://ww2.arb.ca.gov/public-comments/lcfs-fuel-pathways-public-comments/webform/submission/7161> (hereinafter “*U.C. Davis Comments*”).

⁴⁴ CAL. AIR RESOURCES BD., *LOW EMISSION DIESEL (LED) STUDY: BIODIESEL AND RENEWABLE DIESEL EMISSIONS IN LEGACY AND NEW TECHNOLOGY DIESEL ENGINES* (2021).

⁴⁵ *Id.* at 53–54.

The proposal appears to calculate the air pollution impacts of renewable diesel, renewable gasoline, and alternative jet fuel using emissions factors from a simple oil refinery – specifically, Kern Oil & Refining Co.⁴⁶ This refinery is not characteristic of many refineries in California that are producing biofuels.

Because the Kern refinery is not a complex refinery, its emissions profile is likely very different from other biofuel-producing refineries. The Kern refinery includes a distillation process, a hydrotreater, and a small amount of reforming. Most biofuels in California are produced at refineries that are far more complex. Complex refineries include distillation, catalytic cracking, hydrocracking, alkylation, reforming, desulfurization, sulfur recovery, hydrogen production, coking, in addition to hundreds of thousands of seals for valves, flanges, pumps, and compressors, major storage tank farms, and more, all of which can produce emissions. To produce a more accurate estimate of air pollution from biofuel production, CARB should conduct a more thorough analysis of the refineries that will foreseeably produce biofuels and generate emissions factors that are more characteristic of those from the foreseeable set of biofuel refineries.

In sum, CARB’s emissions assumptions are inaccurate and inadequate to support its adoption of the proposal. CARB’s failure to assess federal renewable fuels requirements backslides from prior LCFS analyses and violates the additionality requirements. CARB’s narrow assumptions about crop-based biofuels render the proposal’s land use change analysis arbitrary and capricious. Complete information about emissions impacts from the transition to combustion of biofuels shows lower air quality gains, and CARB’s omission of this relevant information is arbitrary and capricious. Finally, CARB must conduct a more thorough analysis of the refineries that will foreseeably produce biofuels before it can rely on any emissions factors for biofuel refineries. Given that CARB’s dismissal of the regulatory alternatives relies heavily on the climate and air quality benefits of biomass-based diesel, CARB must update its analysis of the proposal and the comparison to regulatory alternatives.

C. A cap on credits for crop-based biofuels would better achieve the maximum technologically feasible and cost-effective emission reductions.

A cap on crop-based biofuels at 2020 energy levels is an important step toward addressing the local and global environmental harms of biofuels; it also better serves CARB’s statutory objectives. Under AB 32, CARB’s primary regulatory objective is to “achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions. . . in furtherance of achieving the statewide greenhouse gas emissions limit.”⁴⁷ The proposal, which encourages unchecked increases in crop-based biofuels, does not maximize technologically feasible and cost-effective reductions. Capping crop-based biofuels would open up room in the LCFS to prioritize investments in scalable technologies that are truly clean and drive us toward our goal of carbon neutrality by 2045.

Biofuels, produced in the volumes contemplated in the proposal, will not provide cost-effective emission reductions. The lion’s share of the program’s biofuel credits will not go to

⁴⁶ *Standardized Regulatory Impact Assessment* B-2.

⁴⁷ CAL. HEALTH & SAFETY CODE §§ 38560, 38560.5(c).

strategic advanced fuels that require investment to scale up; rather, they will go to expensive fuels that offset the regulatory burden for fossil fuel producers. Analysis by the International Council on Clean Transportation and the Union of Concerned Scientists shows that biomass-based diesel will likely only be economical to produce when it is subsidized, because the costs of producing vegetable oils are regularly higher than the costs of wholesale diesel (without even considering the costs of producing diesel from vegetable oils).⁴⁸ It is unlikely that subsidies from the LCFS will help achieve improvements in production costs, given that vegetable oil production is already a mature global industry.⁴⁹ Further, many of the new renewable diesel production facilities are oil refineries. For these refineries, part of the benefit of converting to biofuels is the opportunity to offset their compliance burden and delay a costly facility closure process.⁵⁰ LCFS incentives will thus be used to enshrine the oil giants' impacts to local communities despite a transition away from fossil fuels.

The glut of credits for renewable diesel will also undermine LCFS incentives for electrification and other scalable clean transportation technologies. Setting a cap on biofuels would help stabilize credit prices and focus credit money on electrification.⁵¹ In the proposal, CARB recognizes that achieving carbon neutrality will require a massive shift towards electric vehicles, and that this transition is technologically feasible. Yet the proposal delays progress toward this transition by allowing biofuel credits to crowd out opportunities for regulated parties to invest in electrification.

D. The proposed guardrails do not address the problems with crop-based biofuels.

The proposal recognizes some of the harmful effects of crop-based biofuels and includes guardrails it posits will address these effects. The guardrails, called “Crop-Based Biofuels Sustainability Criteria” include point-of-origin tracking, independent certification, and a ban on palm oil. The guardrails will not, however, address biofuels' harmful effects in any meaningful way. The proposal does not thoroughly explain what point-of-origin tracking and independent certification would achieve, but they are unlikely to significantly reduce the direct land use change effects of biofuel feedstock cultivation, and they do not seem to address indirect land use change effects at all. And the ban on palm-derived fuels does not address the real risks of palm oil-associated deforestation in the LCFS. The real palm oil deforestation problem comes from consumer substitution between palm oil and other vegetable oils, wherein increased demand for biofuel feedstocks like soybean oil drives up the price of soybean oil and food consumers respond to higher soy prices by substituting with palm oil.⁵² The LCFS' continued crediting of biofuels derived from soybean oil will indirectly cause tropical deforestation via increased palm oil production for food, and the palm oil crediting ban will do nothing to address it.

⁴⁸ JANE O'MALLEY ET AL., SETTING A LIPIDS CAP UNDER THE CALIFORNIA LOW CARBON FUEL STANDARD 4 fig. 2 (2022), <https://theicct.org/wpcontent/uploads/2022/08/lipids-cap-ca-lcfs-aug22.pdf>.

⁴⁹ *Id.*

⁵⁰ Martin, *supra* note 9.

⁵¹ Martin, *supra* note 30.

⁵² For more details about fungibility between soybean oil and palm oil, and the environmental and climate externalities of palm oil production, see *NRDC Recommendations for Updates to the Low Carbon Fuel Standard*, submitted by Natural Resources Defense Council (Jun. 14, 2023), available at https://ww2.arb.ca.gov/system/files/webform/public_comments/4036/NRDC%20Letter%20to%20CARB%20on%20LCFS%20Updates_061423_final.pdf. See also JANE O'MALLEY ET AL., *supra* note 48.

E. CARB should require region-specific analysis of land use change effects for fuel pathways that involve imported feedstocks.

One basic way CARB should address land use change risks is by providing more thorough analysis for fuel pathway applications. As Sections I.B.2 and I.D of this comment explain, crop-based biofuels present serious, likely underestimated, direct and indirect land use change risks, and CARB’s proposed guardrails will not reduce these risks. One of the most important reasons to accurately estimate land use change effects is that these estimates are used in Tier 2 fuel pathway applications to calculate carbon intensity values for crediting biofuels. In this context, underestimating a land use change value results in over-crediting a biofuel project.

CARB should provide a region-specific direct and indirect land use change analysis for fuel pathway applications that rely on imported crop-based feedstocks. CARB’s current land use change analysis models U.S. crop production shocks,⁵³ but pathway applicants have been permitted to use this analysis for imported feedstock pathways.⁵⁴ If CARB provided modeling analysis that reflected a region-specific production shock, it would more accurately account for domestic economic factors and trade dynamics to arrive at a carbon intensity estimate that better aligns with the true climate impacts of the feedstock.⁵⁵

II. THE PROPOSAL’S SUPPORT FOR PATHWAYS THAT PERPETUATE FOSSIL FUEL EMISSIONS BURDENS LOW-INCOME REFINERY COMMUNITIES AND INTERFERES WITH ATTAINMENT OF AIR QUALITY STANDARDS.

In addition to the biofuel incentives, the proposal supports several other technology pathways that will be used by the fossil fuel industry, including at oil refineries, and will extend air pollution from fossil fuels. These include incentives for fossil-based hydrogen production, pathways for avoided methane crediting from livestock manure, delayed phaseout of petroleum project crediting, and incentives for carbon capture and sequestration (CCS) and direct air capture (DAC). To the extent that these incentives delay the phase down of oil refining in California, they violate AB 32’s requirements to ensure emission reductions do not disproportionately burden low-income communities and do not interfere with efforts to achieve air quality standards.⁵⁶

Most of California’s oil refineries are in the San Francisco Bay area, Los Angeles area, and San Joaquin Valley, none of which are in attainment of state and federal air quality standards. Oil refineries are predominantly concentrated near communities of color and low-income communities due to decades of racist housing and land use policies. One important example of an area experiencing extreme environmental injustices due to the oil industry is the Carson/Wilmington/Long Beach area, which has five oil refineries that account for over a third

⁵³ See CALIFORNIA AIR RESOURCES BOARD, DETAILED ANALYSIS FOR INDIRECT LAND USE CHANGE I-20–21 (2015), https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/iluc_assessment/iluc_analysis.pdf.

⁵⁴ For example, in December 2023 CARB approved two Tier 2 fuel pathway applications by Phillips 66 Company that involve import of soybean oil feedstocks from Argentina. The applicant’s analysis relied upon the land use change impact value for soy biodiesel that is listed in Table 6 of the LCFS regulation.

⁵⁵ See *U.C. Davis Comments*, *supra* note 43, at 2–3.

⁵⁶ CAL. HEALTH & SAFETY CODE § 38562(b)(2) & (4).

of the state’s overall refining capacity.⁵⁷ Carson/Wilmington/Long Beach residents also deal with pollution from a large oilfield, two major ports, nine rail yards, four major freeways, and multiple chemical facilities.⁵⁸ Most of the residents living in this area are people of color. Air pollution levels in this area regularly exceed federal and state standards, and oil refineries are one of the area’s largest industrial sources of criteria pollution and toxic pollution. To reduce the pollution burden of communities in Carson/Wilmington/Long Beach, along with all other California refinery communities, the LCFS cannot continue to support the oil industry’s false climate solutions.

A. CARB should end avoided methane crediting and biomethane combustion crediting for livestock manure.

To start, CARB should rapidly phase out pathways that provide avoided methane crediting and biomethane combustion crediting for livestock manure, including pathways that are linked with hydrogen production. The proposal would extend these pathways through 2040, and through 2045 for projects linked to hydrogen production. In addition to incentivizing livestock pollution management practices that pollute the air and water of agricultural communities, these pathways harm refinery communities. The credits encourage oil refiners and other hydrogen producers to produce fossil fuel-based hydrogen, because they can make fossil-based hydrogen look carbon negative by purchasing avoided methane credits from dairy digesters that may not even operate in California. They also enable oil refiners to offset their compliance burdens using lavish biomethane combustion credits.

CARB has already approved many fuel pathways in which hydrogen producers earn highly valuable credits by matching fossil-based hydrogen with avoided methane credits. For example, Shell Energy has two certified pathways for production of fossil-based hydrogen (produced from natural gas via steam methane reformation) at facilities in Wilmington and Carson (as explained above, these are areas with already exceptionally high fossil fuel pollution).⁵⁹ Shell uses book-and-claim accounting to claim the environmental attributes of biomethane derived from manure digesters in Minnesota; Minnesota biomethane does not have to actually reach California. Under this scheme, CARB has certified Shell to earn LCFS credits using carbon intensity values of -147 and -152 gCO₂e/MJ—these low carbon intensity values make the pathway more valuable than most electric vehicle pathways.⁶⁰ Shell is thus earning highly valuable LCFS credits to produce fossil-based hydrogen in deeply burdened environmental justice communities.

⁵⁷ *California Oil Refinery Locations and Capacities*, CAL. ENERGY COMM. (Sep. 1, 2023),

<https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries>

⁵⁸ Erica Yee & Hannah Getahun, *A hot spot for polluted air: By the numbers*, CALMATTERS (Feb. 1, 2022),

<https://calmatters.org/environment/2022/02/california-environmental-justice-by-the-numbers/>.

⁵⁹ Low Carbon Fuel Standard Tier 2 Pathway Application No. B0348, Shell Energy (certified Sep. 29, 2022),

https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/tier2/b0348_cover.pdf; Low Carbon Fuel Standard Tier 2 Pathway Application No. B0349, Shell Energy (certified Sep. 29, 2022),

https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/tier2/b0349_cover.pdf

(hereinafter “Shell Hydrogen Pathway Applications”).

⁶⁰ See *LCFS Pathway Certified Carbon Intensities*, CAL. AIR RESOURCES BD.,

<https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities> (last visited Feb. 20, 2024).

In addition to subsidizing production of fossil-based fuels in environmental justice communities, avoided methane crediting for livestock manure also fails to produce real, additional greenhouse gas emissions reductions as AB 32 requires.⁶¹ First, many of the digesters that produce avoided methane credits were funded by other state and federal programs, which means that the LCFS is claiming credit for reductions that would have occurred anyway. Second, CARB has a legislative mandate in AB 1383 to adopt regulations to directly regulate methane emissions from livestock manure, yet it relies on its failure to act on that mandate as justification for these avoided methane credits. Rather than achieving real emission reductions by requiring reductions from livestock operations (as CARB has clear authority to do under AB 1383), the avoided methane credits function as a convoluted offset program that perversely encourages livestock operations to produce more methane to earn more credits. Third, CARB has a concerning lack of data about livestock operations and the effectiveness of digesters at capturing methane, and research from Food & Water Watch suggests that California digesters receiving LCFS credits allow significant volumes of methane to escape.⁶² CARB must carefully analyze the effectiveness of digesters to ensure that the emission reductions it is claiming are real.

B. CARB should rapidly phase out crediting for petroleum projects, including for CCS projects.

CARB should end crediting for projects that directly subsidize oil refineries. The proposal would not phase out these petroleum project credits until 2040, and it would not phase out credits at all for CCS projects. The LCFS already gives fossil fuel producers incentives to reduce the carbon intensity of their products via deficit generation; it is unnecessary to subsidize projects that may entrench fossil fuel operations further into the future.

Importantly, CARB should remove crediting for CCS at refineries. CARB's justification for keeping these credits in the program is that the 2022 Scoping Plan identified CCS projects as an important strategy for meeting AB 1279 targets. However, CBE and the California Environmental Justice Alliance provided comments to CARB during the Scoping Plan process showing that CCS for oil refineries is an unproven technology that has major implementation barriers and creates health and safety hazards.⁶³ Specifically, the comments explained that CCS for oil refineries requires specialized design and has limited applicability to a small number of CO₂-emitting combustion units.⁶⁴ They also provided evidence that widespread CCS units at

⁶¹ CARB must ensure that any greenhouse gas emission reductions achieved are “real” and are “in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.” CAL. HEALTH & SAFETY CODE § 38562(d)(1) & (2).

⁶² FOOD & WATER WATCH, THE PROOF IS IN THE PLUMING: FACTORY FARM BIOGAS HAS NO PLACE IN THE LOW CARBON FUEL STANDARD (2024), <https://www.foodandwaterwatch.org/2024/02/01/new-analysis-identifies-significant-methane-releases-at-california-mega-dairies/#:~:text=A%20new%20Food%20%26%20Water%20Watch,signature%20Low%20Carbon%20Fuel%20Standard>.

⁶³ *CBE Comments on the Draft Recirculated Environmental Assessment (REA) for the 2022 Scoping Plan* at 6 (Oct 24, 2022), available at <https://www.arb.ca.gov/lists/com-attach/41-sp22-recirc-ea-ws-B2RRNVUxAw8BZFU6.pdf> (hereinafter “*CBE Scoping Plan Comments*”); *CEJA Draft Scoping Plan Sector-Specific Comments* at 20–27 (Jun. 24, 2022), available at <https://www.arb.ca.gov/lists/com-attach/4459-scopingplan2022-UDMAY1Y9V2VQCQBk.pdf> (hereinafter “*CEJA Scoping Plan Comments*”).

⁶⁴ *CBE Scoping Plan Comments*, *supra* note 63, at 6.

refineries would increase safety risks from refinery fires and explosions.⁶⁵ Given the barriers and risks associated with deployment of CCS at oil refineries, this LCFS proposal should not rely on it as a climate solution.

C. CARB should not allow indirect accounting for fossil-based hydrogen.

The LCFS should only incentivize green hydrogen produced in a manner consistent with Environmental Justice Equity Principles.⁶⁶ Unfortunately, the proposal expands the program's support for non-green hydrogen projects by adding book-and-claim crediting for hydrogen produced outside California. Particularly concerning is CARB's proposal to add book-and-claim eligibility for fossil-based hydrogen that uses CCS or book-and-claim biomethane. This would allow out-of-state producers to create hydrogen from fossil fuels and earn LCFS credits by using CCS or purchasing book-and-claim biomethane credits. As a result, California drivers will subsidize the out-of-state production of fossil-based hydrogen.

III. CARB'S CHOICE TO INCREASE PROGRAM STRINGENCY RATHER THAN LIMIT CREDIT SUPPLY FOR COMBUSTION FUELS DISPROPORTIONATELY HARMS LOW-INCOME DRIVERS.

The proposal reflects a choice by CARB to ramp up the stringency of carbon intensity targets instead of meaningfully restricting the supply of credits for combustion fuels through limits on biofuel and biomethane crediting. This decision will increase program costs without prioritizing much-needed incentives to expand access to zero emission transportation options. In the 2023 Standardized Regulatory Impact Assessment ("SRIA"), CARB projects that the proposal will pass through significant costs to gas prices. The ISOR instead focuses on the proposal's minimal impacts on the average cost per mile for all fuels including clean fuels; however, this analysis fails to discuss that zero-emission vehicles are not equitably distributed in California. So far, affluent, white communities have been the main benefactors of government investment in zero-emission vehicles. Electric vehicles are still rare in low-income and rural communities and communities with the largest percentages of Black and Latinx residents.⁶⁷ CARB should prioritize increasing investment and reducing access barriers to ensure low-income communities receive benefits from the LCFS and do not disproportionately bear its costs.

By prioritizing expansion of combustion fuels like biofuels and biomethane, the proposal misses opportunities to accelerate equitable access to zero-emission vehicles and other zero-emission transportation options. Limiting the supply of these combustion fuels would increase credit incentives for electrification, and it would reduce the need to ramp up stringency of carbon intensity targets. Moreover, CARB should expand crediting opportunities that facilitate electrification. The proposal's extension of incentives for light-duty vehicle refueling is a solid

⁶⁵ *CEJA Scoping Plan Comments*, *supra* note 63, at 26.

⁶⁶ *Equity Principles for Hydrogen: Environmental Justice Position on Green Hydrogen in California*, COMMUNITIES FOR A BETTER ENV'T (Oct. 10, 2023), <https://www.cbecal.org/wp-content/uploads/2023/10/Equity-Hydrogen-Initiative-Shared-Hydrogen-Position-1.pdf>.

⁶⁷ Nadia Lopez & Erica Yee, *Who buys electric cars in California — and who doesn't?*, CALMATTERS (Mar. 22, 2023), <https://calmatters.org/environment/2023/03/california-electric-cars-demographics/#:~:text=Communities%20with%20high%20concentrations%20of,faces%20electrifying%20the%20entire%20fleet.>

start, but CARB can take further action. For example, CARB should add a credit multiplier for zero-emission mass transit vehicles, including transit buses and school buses. These changes are critical to ensure that the program lifts up low-income communities rather than leaving them stuck in combustion vehicles paying the program's costs.

IV. THE DRAFT ENVIRONMENTAL IMPACT ANALYSIS DOES NOT SATISFY CEQA REQUIREMENTS.

CARB has been authorized to implement its own certified regulatory program under the California Environmental Quality Act ("CEQA"), and failure to comply with that regulatory program violates CEQA.⁶⁸ The Draft Environmental Impact Analysis ("EIA") for the proposal violates CEQA in several respects. First, the set of alternatives CARB chose is not sufficient to evaluate feasible alternatives that could lessen significant environmental impacts. Specifically, CARB should include alternatives that involve a cap on biofuels. Second, CARB concludes that impacts on air quality are unavoidable without considering feasible mitigation options that are within its authority. Third, CARB's conclusion that odor impacts are less-than-significant overlooks relevant information. Finally, CARB's suggestion that land use and permitting authorities can adequately mitigate the indirect land use impacts of biofuel feedstocks is not consistent with the experience at existing biofuel refineries, and its conclusion flatly contradicts both records evidence and reality.

A. The EIA should include alternative scenarios that cap credits for crop-based biofuels.

CARB's certified regulatory program requires CARB to produce a staff report that analyzes whether any feasible alternatives are available that would substantially lessen any significant environmental impacts.⁶⁹ The alternatives "should focus on reducing or avoiding significant environmental impacts associated with the project as proposed."⁷⁰

The alternatives that CARB identifies in the Draft EIA are not effective in helping to evaluate feasible alternatives that could substantially lessen the proposal's significant environmental impacts. Many of the proposal's significant environmental impacts stem from the high supply of credits for combustion fuels including biofuels and biomethane. But the alternatives included in the Draft EIA (specifically Alternatives 1, 3, and 4) primarily modify the stringency of the carbon intensity targets and provide only minor variations in the supply of different types of credits. These alternatives cannot be expected to significantly change the environmental impacts identified in the proposal.

An adequate alternatives analysis must include alternatives that cap crop-based biofuels. There are several reasons why the lack of an alternative with a biofuels cap in the Draft EIA prevents CARB and the public from fully evaluating the range of regulatory options and their environmental impacts.

⁶⁸ *POET, LLC v. State Air Resources Bd.*, 218 Cal.App.4th 681, 270 (2013).

⁶⁹ CAL. CODE REGS. Tit. 17, § 60004.2(c)(2).

⁷⁰ *Draft Environmental Impact Analysis* 172.

First, CARB is clearly considering a regulatory option that includes a cap on biofuels. “Alternative 1” in the ISOR’s “Evaluation of Regulatory Alternatives” is a scenario with lower carbon intensity stringency and a cap on virgin crop-based biofuels. However, the EIA does not include a comparable scenario. Including a biofuels cap scenario in the EIA would enable consideration of a variety of environmental resource impacts that are not studied in the ISOR. By excluding a biofuels cap scenario from its CEQA analysis, CARB fails to evaluate an alternative that it has already demonstrated is feasible and under consideration in the ISOR.

Second, the analysis of “Alternative 1” in the ISOR does not satisfy CARB’s CEQA requirements. The ISOR’s analysis of regulatory alternatives allows CARB to compare scenarios across specific factors including costs, overall climate benefits, and overall air quality benefits. The Draft EIA’s analysis of feasible alternatives considers a broader range of significant environmental impacts from the proposal. For example, the Draft EIA determines that the proposal will have a significant impact on land use related to feedstock production; agricultural and forest resources due to feedstock cultivation; and biological and cultural resources, in part due to increased use of biofuel feedstocks. Analyzing a biofuel cap alternative in the EIA would enable CARB to evaluate whether a reduced supply of biofuel credits could reduce the significant impacts identified in the proposal.

Third, CARB omitted a biofuel cap from the “Focused Crediting Scenario,” and provides no reason for leaving out this component of the Comprehensive EJ Scenario requested by the EJAC and a variety of stakeholders. CARB previously committed to evaluating the Comprehensive EJ Scenario, which includes a cap on crop-based biofuels, a rapid phaseout of avoided methane crediting, and other environmental justice priorities. It is unclear why the version of this scenario evaluated in the Draft EIA leaves out a biofuel cap. In its current form, the “Focused Crediting Scenario” is unresponsive to the EJAC’s request.

CARB should therefore include a scenario comparable to “Alternative 1” in the ISOR, and it should modify the “Focused Crediting Scenario” to include a biofuel cap, making it comparable to the requested EJAC scenario.

B. CARB has feasible options, within its authority, to mitigate significant air quality impacts.

CEQA requires CARB to identify feasible mitigation measures that would “substantially lessen the significant environmental effects” of the proposal.⁷¹ “Feasible” mitigation means measures “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.”⁷² Contrary to what the Draft EIA concludes, CARB has feasible options to mitigate the air quality impacts of the proposal.

The Draft EIA correctly concludes that Short-Term Construction-Related and Long-Term Operational-Related Impacts on Air Quality are significant, although it does not thoroughly

⁷¹ CAL. PUB. RESOURCES CODE § 21002.1; CEQA GUIDELINES § 15126(a); CAL. CODE REGS. Tit. 17, § 60004.2(c)(2).

⁷² CAL. PUB. RESOURCES CODE § 21061.1.

discuss the potential causes of local emissions increases. CARB estimates that “localized increases in emissions” could occur near biofuel production facilities, routes for biofuel feedstock, and routes for finished fuel transportation.⁷³ CARB should also consider potential local increases in emissions around facilities that produce fossil-based hydrogen matched with biomethane credits (for example, at the Shell Energy natural gas-based hydrogen facilities in Carson and Wilmington).⁷⁴

The Draft EIA’s conclusion that air quality impacts are unavoidable is not correct. CARB argues that there are no feasible mitigation options because CARB does not have authority to require implementation of mitigation for projects that are under control of local and state land use and permitting authorities. However, there are many feasible mitigation options that are squarely within CARB’s authority.

First, CARB can require, as a condition for earning LCFS credits, that trucks carrying feedstocks and finished fuels to and from biofuel, hydrogen, and biomethane facilities are zero-emissions vehicles. CARB has authority to place conditions on pathway holders (for example, the proposal would impose sustainability certification conditions on pathway holders for crop-based biofuels). CARB also has authority, which it deploys in the Advanced Clean Fleets Rule, to require fleets to phase in zero-emission vehicles. And thanks in part to CARB’s groundbreaking vehicle emissions regulations, the use of zero-emission trucks is a feasible technology option to use for mitigation.

Second, CARB can prohibit or invalidate approval of pathways at facilities that are out of compliance with state and federal air quality regulations. This is a common-sense, necessary measure to ensure that the LCFS does not continue incentivizing unlawful releases of air pollution. For example, in 2021 CARB approved three pathways for Phillips 66 Rodeo to produce renewable diesel, despite receiving notice via the pathway application comments that the facility was under investigation by the Bay Area Air Quality Management District for operating an unpermitted renewable diesel hydroprocessing unit.⁷⁵ CARB has clear authority to prevent these situations, as CARB’s Executive Officer can “restrict, suspend, or invalidate credits” that are “generated... in violation of other laws, statutes, or regulations.”⁷⁶ This option is also plainly feasible, because it merely requires compliance with existing air quality regulations.

Third, CARB can prohibit approval of pathways that produce significant air pollution in areas out of attainment with air quality standards, and/or in environmental justice communities. This would be highly effective in mitigating localized air pollution impacts, and it fits squarely within CARB’s authority to decide which fuel pathways are eligible to receive credits under the program.

⁷³ *Draft Environmental Impact Analysis* 62.

⁷⁴ See, e.g., Shell Hydrogen Pathway Applications, *supra* note 59.

⁷⁵ *Comments on Phillips 66 – Application No. B0241 for Three Low-Carbon Fuel Standard Tier 2 Fuel Pathways*, submitted by Communities for a Better Environment & Natural Resources Defense Council (Dec. 17, 2021), available at https://www.arb.ca.gov/lists/com-attach/905-tier2lcfspathways-ws-BXVdbVRjBAhWPABj.pdf?_ga=2.161580924.1729481274.1707759900-1149230758.1693940701.

⁷⁶ CAL. CODE REGS. Tit. 17, § 95495(a).

These are just three examples of feasible mitigation options that CARB should consider before concluding that air quality impacts are unavoidable.

C. CARB’s finding that odor impacts are less than significant is likely incorrect.

The Draft EIA’s finding that long-term operational impacts from odors are less than significant is likely incorrect because it overlooks odor impacts at biofuel refineries. In both the Phillips 66 Rodeo and Marathon Martinez refinery conversions, the Environmental Impact Reports for both conversion projects found that odor impacts could be significant without mitigation measures.⁷⁷ Although the elimination of petroleum refining has beneficial impacts on refinery odors, the use of animal-based feedstocks can create odors similar to those from animal and food processing facilities.⁷⁸ The risks of these odor impacts led Contra Costa County to require odor mitigation measures at both biofuel refineries. Given these findings of significant odor impacts from specific biofuel refinery facilities, CARB should reconsider its finding of less-than-significant odor impacts.

D. CARB’s conclusion that significant land use impacts from biofuels are “unavoidable” leaves no real opportunities for mitigation.

The Draft EIA finds that biofuels cause numerous significant environmental impacts related to indirect land use change, but it does not acknowledge that there are few realistic ways to ensure that those impacts are analyzed and mitigated. Increased demand for biofuel feedstocks can lead to indirect land use changes by diverting food crops to produce biofuels. This has significant global impacts on agriculture and forest resources, biological resources, cultural resources, and geology and soils. For each of these resource areas, CARB concludes that significant impacts are unavoidable because CARB does not have authority to require mitigation that would be implemented by local authorities, and CARB provides a list of “recognized practices” that are “routinely required” by other authorities that are likely to minimize such impacts.

In practice, communities are left in a catch-22 in which no state or local authority in California will evaluate the indirect land use impacts of biofuel feedstocks and consider mitigation options. The Phillips 66 Rodeo biofuel refinery provides an instructive example of this problem. During CEQA review of the refinery conversion, communities asked Contra Costa County to analyze the project’s indirect land use change effects, but the County refused to conduct this analysis on the grounds that these effects were too speculative because the specific mix of feedstocks used at the refinery could not be predicted.⁷⁹ The Contra Costa County Superior Court agreed, holding that the mix of feedstocks used at the facility could not be

⁷⁷ *Communities for a Better Environment v. County of Contra Costa*, Contra Costa County Superior Court Case No. N22-1080, at 17 (Jul. 21, 2023); *Communities for a Better Environment v. County of Contra Costa*, Contra Costa County Superior Court Case No. N22-1091, at 14 (Jul. 21, 2023).

⁷⁸ Contra Costa Cnty. Dep’t of Conservation and Dev., *Draft Environmental Impact Report (County File# CDLP20-02040)*, at 4.3-79 (Oct. 2021), <https://www.contracosta.ca.gov/DocumentCenter/View/72880/Rodeo-Renewed-Project-DEIR-October-2021-PDF>.

⁷⁹ See *Communities for a Better Environment v. County of Contra Costa*, Contra Costa County Superior Court Case No. N22-1080, at 21 (Jul. 21, 2023).

accurately predicted to support an indirect land use change analysis.⁸⁰ The local permitting process thus provided no opportunity to evaluate indirect land use change effects and consider mitigation options, despite the fact that throughout this CEQA process, Phillips 66 was already receiving credits from CARB for fuel pathways based on specific feedstocks.

This experience shows that although fuel producers are able to provide CARB with sufficient information about their feedstocks to enable analysis of land use change effects, this information is unlikely to be used in CEQA analyses for biofuel projects. This casts doubt on CARB's conclusion that land use change impacts could be reduced to less-than-significant levels with mitigation from land use agencies and permitting agencies. It also exposes the lack of realistic options for evaluating and addressing the proposal's land use change impacts.

CBE appreciates the opportunity to provide comments on this proposal, and we urge the Board to direct CARB staff to make critical changes that will align the LCFS with AB 32 requirements and the needs of environmental justice communities.

Sincerely,

Amelia Keyes
CBE Attorney & Legal Fellow

⁸⁰ *Id.*