



August 27, 2024

Chair Randolph and Honorable Members of the Board
California Air Resources Board
1001 I Street Sacramento, California 95814

Re: Recommendations for the Low-Carbon Fuel Standard Program

The Natural Resources Defense Council and the undersigned 28 organizations submit the following comments both in support of a critical change made to the latest draft of the proposed Low Carbon Fuel Standard (LCFS) regulations, as well as to urge the California Air Resources Board (CARB) to make further changes to the LCFS program to prevent harm to vulnerable communities related to waste incineration.

The previous draft LCFS regulations, released in January 2024, included a definition of “petroleum product” which included a highly problematic clause that explicitly stated that this term did

“not include plastic or plastic products.” This clause was both inaccurate and confusing given that more than 99% of plastic is made from fossil fuels.¹ We therefore support the following proposed change to the LCFS regulations in the draft released on August 12, 2024:

“Petroleum Product” means all refined and semi-refined products that are produced at a refinery by processing crude oil and other petroleum-based feedstocks, including petroleum products derived from co-processing biomass and petroleum feedstock together. ~~“Petroleum product” does not include plastics or plastic products.~~

Given the LCFS program’s focus on climate mitigation, it is worth noting that a recent study by the U.S. federal government found that global plastic production is a major driver of climate change.² The study, which was conducted by scientists at the Lawrence Berkeley National Lab, estimates that by 2050 plastic production could account for between 21% to 31% of the global carbon emission budget required to limit global temperature increase to just 1.5 degrees Celsius. Currently, the industry is responsible for four times more greenhouse gas emissions than the airline industry, or about 600 coal-fired power plants.³ It is important, therefore, that the LCFS program does not incentivize the production of plastic or plastic waste in any way, or suggest that plastic is not a petroleum product.

In addition, we wish to express our deep concern with and opposition to the numerous ways that the LCFS will incentivize the conversion of municipal solid waste (MSW) into fuel, particularly MSW containing plastic. Data show that the two most common technologies used for such conversion will be pyrolysis and gasification⁴, both of which are regulated as incineration under federal law.⁵ While the emissions from pyrolysis and gasification are concerning no matter what the feedstock, they are particularly toxic when the feedstocks include plastic—either directly or as a component of MSW. According to the Environmental Protection Agency’s most recent data (2018), plastics typically comprise over 12 percent of municipal solid waste.⁶

¹ National Academies of Sciences, Engineering, and Medicine, *Reckoning with the U.S. Role in Global Ocean Plastic Waste*, The National Academies Press, 2022, <https://doi.org/10.17226/26132>

² Karali, Nihan, Nina Khanna, and Nihar Shah, *Climate Impact of Primary Plastic Production*, Lawrence Berkeley National Laboratory, 2024, <https://escholarship.org/uc/item/12s624vf>

³ Elbein, S, “Plastics industry heats world 4 times as much as air travel, report finds,” *The Hill*, April 18, 2024, <https://thehill.com/policy/energy-environment/4601309-plastics-industry-heats-world-four-times-as-much-as-air-travel-report-finds/>

⁴ Rauch, Reinhard, Yohannes Kiros, Klas Engvall, Efthymios Kantarelis, Paulo Brito, Catarina Nobre, Santa Margarida Santos, and Philipp A. Graefe. “Hydrogen from Waste Gasification.” *Hydrogen* 5, no. 1 (2024): 70-101; Oil and Gas Watch Database; Oil and Gas Watch Database, “Spotlighting the Environmental Impact of Oil, Gas, and Petrochemical Expansion,” accessed August 19, 2024, <https://oilandgaswatch.org/>

⁵ WasteDive, “EPA withdraws proposal to drop pyrolysis from regulation following criticism,” June 6, 2023, <https://www.wastedive.com/news/epa-pyrolysis-emissions-clean-air-act-decision/652153/>

⁶ Environmental Protection Agency, “National Overview: Facts and Figures on Materials, Wastes and Recycling,” accessed August 19, 2024, <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials>

Pyrolysis and gasification emit hazardous air pollutants including benzene, toluene, styrene, formaldehyde, ethyl benzene, and dioxans/furans when they incinerate plastic.⁷ Pyrolysis and gasification facilities also generate large amounts of hazardous waste; one pyrolysis facility alone generated 484,000 pounds of hazardous waste in 2019.⁸

Pyrolysis and gasification facilities tend to be located in communities that are disproportionately low income, people of color, or both.⁹ If the LCFS is incentivizing the building of new pyrolysis and gasification incinerators in California (and/or elsewhere), they will most likely be sited in environmental justice communities. These communities will bear the brunt of the toxic impacts of the hazardous air pollutants and waste that is generated.

In summary, to protect the health of California communities and prevent the building of large numbers of new incinerators, we urge CARB to (1) finalize the strike-out of the previously proposed language that explicitly and inappropriately excluded plastics from the definition of petroleum products in the LCFS; and (2) remove incentives for the conversion of municipal solid waste to fuel, especially when this conversion involves pyrolysis or gasification.

Thank you for considering our views.

Sincerely,

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⁷ Veena Singla, NRDC, Recycling Lies: “Chemical Recycling” of Plastic is Just Greenwashing Incineration Issue Brief,” September 2022, <https://www.nrdc.org/resources/recycling-lies-chemical-recycling-plastic-just-greenwashing-incineration>

⁸ *Ibid.*

⁹ *Ibid.*

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