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Clerk of the Board
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Submitted online via: https://www.arb.ca.gov/lispub/comm/iframe_bclist.php

RE: POET COMMENTS ON THE JOINT DISCUSSION OF IMPLEMENTATION OF CARB’S ASSEMBLY BILL 32 CLIMATE PROGRAMS — LCFS

POET, the world’s largest producer of biofuels, is pleased to submit comments in connection with the California Air Resources Board’s (CARB) joint meeting with the Assembly Bill 32 Environmental Justice Advisory Committee (EJAC) regarding updates to the Low Carbon Fuel Standard (LCFS) regulations. POET shares California’s goals of achieving carbon neutrality and reducing air pollution in California’s most affected communities. We write to underscore the continued importance of bioethanol in reducing carbon emissions in California, and improving air quality in high-traffic urban neighborhoods. We urge CARB to recognize and continue to support bioethanol’s important role in achieving California’s climate goals.

I. ABOUT POET

POET’s vision is to create a world in sync with nature. As the world’s largest producer of biofuel and a global leader in sustainable bioproducts, POET creates plant-based alternatives to fossil fuels that unleash the regenerative power of agriculture and cultivate opportunities for America’s farm families. Founded in 1987 and headquartered in Sioux Falls, POET operates 34 bioprocessing facilities across eight states and employs more than 2,200 team members. With a suite of bioproducts that includes POET Distillers Grains, POET Distillers Corn Oil, POET Purified Alcohol, and POET Biogenic CO₂, POET nurtures an unceasing commitment to innovation and advances powerful, practical solutions to some of the world’s most pressing challenges. Today, POET holds more than 80 patents worldwide and continues to break new ground in biotechnology, yielding ever-cleaner and more efficient renewable energy. POET is also a leading champion for nationwide access to E15, a renewable fuel blend made with 15% bioethanol. In 2021, POET released its inaugural Sustainability Report pledging carbon neutrality by 2050.¹

II. BIOETHANOL REDUCES GREENHOUSE GAS EMISSIONS (GHG)

Bioethanol’s substantial contributions to emissions reductions in California are well-documented. From 2011-2020 the “use of ethanol under the LCFS has generated 26.9 million metric tons of GHG savings (credits), or 35% of the total since implementation began,” which is “more than any

¹ See <https://poet.com/sustainability>

other low carbon fuel used in the state.”² A November 2020 study by Air Improvement Resources, Inc. showed that shifting from E10 to E15 in California would reduce greenhouse emissions by an additional 1.9 million metric tons annually – equivalent to taking more than 411,000 vehicles off California roads.³ As detailed further below, bioethanol’s clean air benefits are not limited to carbon reductions.

III. BIOETHANOL IMPROVES AIR QUALITY IN DISADVANTAGED COMMUNITIES

POET urges CARB to recognize the proven human health benefits of blending bioethanol into gasoline, which replaces benzene, toluene, ethyl-benzene, and xylene (BTEX) in California’s liquid fuel supply. Bioethanol and BTEX are interchangeable fuel additives that both boost octane, but BTEX is harmful to human health and has been linked to negative developmental, reproductive, immunological, and cardio-pulmonary effects. Shifting away from petroleum-based BTEX to 15% renewable biofuel can improve air quality in high-traffic urban neighborhoods that have disproportionately suffered from air pollution and related health risks. Furthermore, E15 reduces volatile organic compounds (VOCs) and has lower volatility than E10. According to research CARB recently completed in partnership with the University of California, Riverside, E15 reduced carbon monoxide (CO), particulates (PM2.5), volatile organic compounds (VOCs), and GHGs with no increase in nitrogen oxide (NOx).⁴

IV. BIOETHANOL PRODUCTION ENHANCES THE FOOD SUPPLY

POET respectfully disagrees with statements in the EJAC’s draft recommendations to the extent that they suggest that bioethanol through the LCFS has driven deforestation and caused food to be used for fuels. Rather, bioethanol production creates a more efficient and cost-effective source of feed. One bushel of corn produces 2.9 gallons of ethanol as well as 15 pounds of distillers dried grains with solubles (DDGS) – a highly nutritious animal feed used for dairy, beef, swine, poultry, and even aquaculture. Less than half of a bushel of corn is processed for ethanol. The remainder is processed for feed, corn oil and CO₂. In 2021, ethanol biorefineries captured 2.7 million metric tons of CO₂ for bottling, dry ice, meat production and water treatment.

Furthermore, data from the United States Department of Agriculture Economic Research Service shows that farmers have utilized roughly the same total acres for crop production since the 1930s.⁵

² See *The California LCFS and Ethanol: A Decade of Reducing Greenhouse Gas Emissions*, available at https://d35t1syewk4d42.cloudfront.net/file/9/RFA-LCFS-Report_PDF.pdf

³ See *GHG Benefits of 15% Ethanol (E15) Use in the United States*, available at <http://www.airimprovement.com/reports/national-e15-analysis-final.pdf>

⁴ *Comparison of Exhaust Emissions Between E10 CaRFG and Splash Blended E15*, University of California, Riverside (June 2022), available at https://ww2.arb.ca.gov/sites/default/files/2022-07/E15_Final_Report_7-14-22_0.pdf.

⁵ See <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=104839>

At the same time, crop yields per acre have increased continuously due to innovations in agricultural practices.

V. BIOETHANOL REDUCES FUEL COSTS FOR LOW-INCOME INDIVIDUALS

Bioethanol also saves Californians money, reducing fuel costs for low-income drivers who may not yet find EVs affordable. Analysis by researchers led by the University of California, Berkeley concluded that “adding ethanol to gasoline decreases the price paid by U.S. drivers at the pump. We estimate the average discount per gallon to be \$0.77 between 2019 to 2022 and averaged across our models. ...this would add up to total savings of \$95.1 billion per year for U.S. consumers.”⁶ Spread across 124 million U.S. households, this equates to an average annual savings of \$767 per household. The savings could be even more with the approval of E15 in California. An April 2023 study by the Renewable Fuels Association indicates that since the beginning of 2022 American drivers saved an average of more than 25 cents per gallon when using the E15.⁷

VI. BIOETHANOL AND E15 DO NOT COMPETE WITH EVs

Finally, POET respectfully disagrees with statements in the EJAC’s draft recommendations to the extent that they suggest that the LCFS is incentivizing combustion fuels to the detriment of electric vehicle adoption. Even under the most aggressive targets for electric vehicle adoption, there will still be millions of internal combustion engines on the road for many decades to come. A Cox Automotive Study published in June 2023 concluded that “EVs will account for less than 8% of total new-vehicle sales in 2023.”⁸ That means that more than 92% of new vehicle sales in the near term will still be internal combustion engines. Those new vehicles – along with hundreds of millions of legacy vehicles like them – need cleaner, compatible and more affordable fuels, like E15.

* * *

POET shares California’s goals to achieve carbon neutrality and improve the air quality and health outcomes for individuals in high-density, high-traffic communities most affected by vehicle emissions. Bioethanol, and E15 in particular, offers California a proven and cost-effective solution for reducing GHG emissions and reducing toxic and carcinogenic particulates. POET appreciates the opportunity to comment and has previously provided rigorous and detailed data and analysis regarding the many benefits that bioethanol has and can continue to deliver for California. We

⁶ See Zilberman, David, *et al.*, *Impact of ethanol on gasoline prices in the U.S.: New evidence*, available at <https://d35t1syewk4d42.cloudfront.net/file/2425/Impact%20of%20ethanol%20on%20gasoline%20prices%202023.pdf>

⁷ See <https://ethanolrfa.org/media-and-news/category/news-releases/article/2023/04/new-analysis-shows-consumers-save-at-least-25-cents-per-gallon-with-e15#:~:text=A%20new%20analysis%20by%20the.compared%20to%20regular%20E10%20unleaded.>

⁸ See <https://www.coxautoinc.com/news/new-cox-automotive-study-ev-consideration-at-record-high-but-dealers-feel-unprepared/>

look forward to working with CARB as it reviews and updates its LCFS regulations. If you have any questions, please contact me at Josh.Wilson@POET.COM or (202) 756-5612.

Sincerely,

A handwritten signature in black ink, appearing to read 'JPW', with a long horizontal flourish extending to the right.

Joshua P. Wilson

Senior Regulatory Counsel