

April 21, 2025

Ms. Rajinder Sahota
Deputy Executive Officer
Climate Change and Research
California Air Resources Board
1001 I St
Sacramento, CA 95814

**Re: Comments on Modifications to the Proposed Low Carbon Fuel Standard
Amendments Issued April 4, 2025**

Dear Ms. Sahota:

The Renewable Fuels Association (RFA) appreciates the opportunity to comment on the modifications to the proposed Low Carbon Fuels Standard (LCFS) amendments released on April 4, 2025, as the Third 15-day Changes to Proposed Regulation Order. The RFA is the leading trade association for America's ethanol industry. Our mission is to drive growth in sustainable renewable fuels and bioproducts for a better future.

RFA has provided extensive comments over the last three years during the California Air Resources Board's (CARB) process of modifying and updating the LCFS program, including comments on the First and Second 15-day Changes, and we incorporate those comments by reference and ask that they be considered in conjunction with this letter.¹

**RFA Supports CARB's Clarification of How Land Use Change (LUC) Emissions
Will Be Calculated, but Caution Needs to Be Exercised in Using Satellite Data**

RFA supports the revision in the Third 15-day Changes specifying that "the Executive Officer will calculate a conservative LUC value only if an entity's fuel pathway application does not exactly match the biomass/region/fuel combination in Table 6, and if no Table 6 value is appropriate."² In our comments submitted on August 27 and October 16, 2024, RFA had addressed the previous language in 95488.3(d) Accounting for Land Use Change, and we appreciate the State's responsiveness to the concerns of RFA and other stakeholders.

¹ See RFA Comments in response to 15-1 (Aug. 27, 2024), <https://www.arb.ca.gov/lists/com-attach/7442-lcfs2024-AXMCYgZmBAhVMFQ7.pdf>; and RFA Comments in response to 15-2 (Oct. 16, 2024), <https://www.arb.ca.gov/lists/com-attach/77-lcfs2024-2nd15day-UiBWNgdnV1sFYAlm.pdf>.

² https://www2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/3rd_15day_notice.pdf

Still, CARB made a subtle, but substantive change to its approach to determining LUC values in subsection 95488.3(d)(2). Previously, Attachment A-1 in the Second 15-day Changes stated, “Such determination must be based on the best available empirical data, including but not limited to satellite-based remote sensing data for land cover monitoring, crop yields, and emission factors from the AEZ-EF model or carbon stock datasets.” In the Third 15-day Changes, this subsection has been modified to say that “the Executive Officer shall calculate a conservative LUC value based on...the best available empirical data. The Executive Officer shall use satellite-based, empirical estimates of land cover change attributed to biomass feedstock expansion in a region, along with emissions factors from the AEZ-EF model and empirical data on biomass feedstock yields.” That is, satellite-based estimates appear to have been given primacy over any other datasets.

LUC values for the main U.S.-produced biofuels (i.e., corn ethanol and soy biomass-based diesel) are already provided in Table 6 and would not be subject to this approach. Otherwise, for biofuels produced in countries where adequate datasets are not available from the government, the proposed approach might be appropriate. However, for countries with robust statistical reporting systems on agriculture and land use, CARB should consider such data alongside satellite-based data when developing its estimates. It has been shown that satellite imagery is not well-suited to differentiating between certain types of vegetation (e.g., grassland) and that it can have varying accuracy; additionally, quality has evolved over time, making older imagery less suitable for comparison to more recent imagery. CARB should keep these limitations in mind when using satellite-based data.

Separately, it is RFA’s understanding that over the next year CARB intends to initiate a review of its indirect land use change (ILUC) estimates, which are a decade old. RFA agrees that the estimates need to be updated, given the consensus among researchers that potential ILUC is significantly lower than was estimated in the early years of the LCFS, and RFA looks forward to engaging with CARB staff during this process.

The Sustainability Requirements in Section 95488.9(g) are Unnecessary for U.S.-Produced Ethanol and Are Unworkable

CARB’s stated rationale for including sustainability requirements in the LCFS amendments was concern about a “rapid expansion of biofuel production and biofuel feedstock demand [that] could result in deforestation or adverse land use change...” However, RFA has repeatedly substantiated in our comments that U.S. corn ethanol is not undergoing rapid expansion and, therefore, the sustainability requirements in section 95488.9(g) should not apply to it. Additionally, RFA has detailed in its previous comments that the sustainability requirements are burdensome and potentially unworkable. Yet, CARB continues to be completely unresponsive to this logic and evidence. To date, CARB has still not substantiated the need for, or demonstrated the benefit of, the sustainability requirements that it finalized in Section 95488.9.

We would urge CARB to review and carefully consider RFA's comments submitted in response to the workshop held on April 10, 2024, in addition to the comments noted above on the First and Second 15-day Changes.³

In addition, RFA is attaching an analysis showing that the amount of cropland used to produce ethanol consumed in California has *fallen* more than 20 percent since 2011. The analysis shows that the number corn acres needed to meet California ethanol demand has *decreased* by more than 700,000 acres since the LCFS program began. The empirical data presented in the analysis clearly invalidate CARB's rationale for implementing the additional sustainability provisions at Section 95488.9(g).

Approval of E15 Facilitates Meeting More-Stringent LCFS Targets at the Lowest Practical Cost to California Consumers

RFA is encouraged by the recent posting on the CARB website of the Tier II results for the Multi-Media Evaluation (MME) of E15 blends, as well as CARB's fiscal year 2025-26 budget request for funds to conduct a rulemaking process for E15 approval over the next year.

E15 offers a unique opportunity to lower the cost of gasoline while cutting emissions of greenhouse gases and criteria pollutants. The Tier II MME results clearly demonstrate the significant emission benefits of E15 compared to E10.

The expeditious approval of E15 in California supports the more-stringent compliance curve of the amended LCFS regulation and provides additional consumer choice and lower-cost options in LCFS compliance. RFA looks forward to engaging with CARB and other stakeholders in advancing the use of E15 in California.

Thank you for the opportunity to submit these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Richman", with a stylized flourish at the end.

Scott Richman
Chief Economist

³ See RFA comments in response to the Low Carbon Fuel Standard Workshop, April 10, 2024 (May 10, 2024) https://ww2.arb.ca.gov/system/files/webform/public_comments/11386/RFA%20Comments%20on%20CARB%20LCFS%20Workshop%204-10-24_0.pdf

CARB's New LCFS Sustainability Requirements for Biomass: A Solution in Search of a Problem

April 2025

As part of its 2024 amendments to the California Low Carbon Fuel Standard (LCFS), the California Air Resources Board (CARB) is planning to implement broad-sweeping “Sustainability Requirements for Biomass.”¹ In the case of grain-based ethanol produced in the United States, CARB’s new requirements appear to be a blundering “solution” to a “problem” that does not actually exist.

What do the New Sustainability Requirements Mean for Ethanol Producers?

Under the new sustainability provisions, producers of ethanol and other biofuels would be required to submit attestations confirming that the feedstock (like corn or sorghum) they use came from land that was cleared or cultivated prior to January 1, 2008, along with “geographical shapefiles or coordinates” of field boundaries. In addition, the regulation would also require fuel producers to maintain detailed “chain-of-custody” delivery and shipment records for all crop-based feedstocks processed.

Ethanol producers would also be required to secure “continuous third-party sustainability certification” to demonstrate that crop-based feedstocks were “produced according to best environmental management practices that reduce GHG emissions or increase GHG sequestration....” The regulation includes some general examples of activities that CARB believes are consistent with “best environmental management practices.” However, no technical guidelines, definitions, specific details, or reference protocols are included, making the new feedstock sustainability requirements highly ambiguous and confusing.

Further, CARB’s new regulations would delegate authority to third-party certifiers, potentially including foreign entities, to determine whether biomass feedstock used to make biofuel meets the regulation’s new sustainability requirements—even though those requirements remain ill-defined.

¹ CARB. Proposed Regulation Order: Proposed Amendments to the Low Carbon Fuel Standard Regulation. Third 15-Day Changes. See Section 95488.9(g) (page 171).
<https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/atta1.pdf>

Throughout the three-year LCFS amendments process, public stakeholders have repeatedly raised concerns about the impracticality, vagueness, and needlessness of the new sustainability requirements. Several elements of the sustainability requirements would be difficult—if not impossible—for many ethanol producers to implement. During both the informal and formal phases of the rulemaking, a diverse array of ethanol market participants provided detailed testimony, written comments, and analysis to CARB outlining the immense cost and nonexistent benefit of the sustainability provisions. Yet, the agency disregarded this public feedback and is planning to move ahead to finalize and implement the measures.

Why Does CARB Think the Sustainability Provisions Are Needed?

The overarching rationale used by CARB to justify the new sustainability requirements is that “...rapid expansion of biofuel production and biofuel feedstock demand [that] could result in deforestation or adverse land use change...”, thus necessitating “...additional guardrails on the use of crop-based feedstocks for biofuel production.”²

Yet, any objective analysis of trends in ethanol production and feedstock demand related to the LCFS clearly shows that CARB’s concern is wholly unjustified and uninformed. A simple review of available data prove that CARB’s fears of cropland expansion in connection with California ethanol demand are unwarranted.

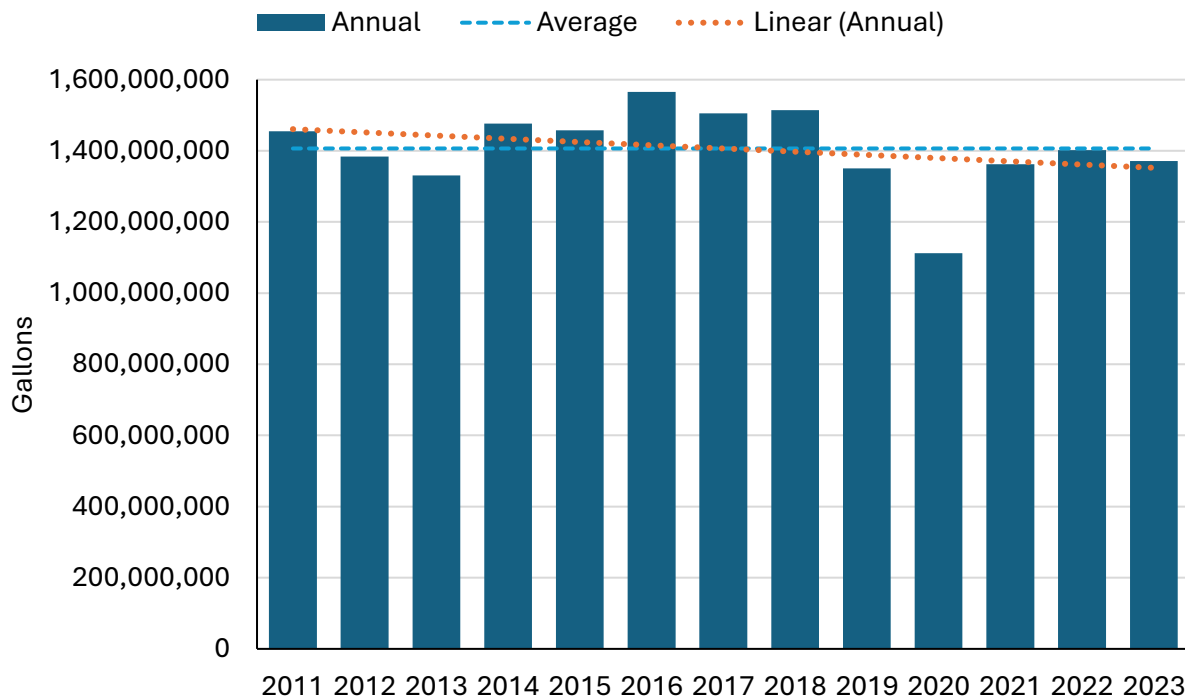
Consumption of Grain-Based Ethanol in California has NOT ‘Rapidly Expanded’ Under the LCFS Program

CARB’s purported reason for implementing sustainability requirements is to provide “guard rails” against “rapid expansion of *biofuel production* and biofuel feedstock demand....” However, CARB’s own data show that consumption of grain-based ethanol in the state has been remarkably stable since implementation of the LCFS began in 2011. In fact, grain-based ethanol consumption has trended slightly lower in recent years.

Since 2011, annual consumption has averaged 1.407 billion gallons, as seen in Figure 1. And if 2020 is excluded due to the abnormal market effects of COVID, yearly ethanol consumption has fallen within a fairly tight range of 1.331 billion gallons to 1.566 billion gallons.

² CARB. Response to Comments on the Draft and Recirculated Environmental Impact Analyses. Nov. 6, 2024. See page 12. https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/lcfs_rtc.pdf

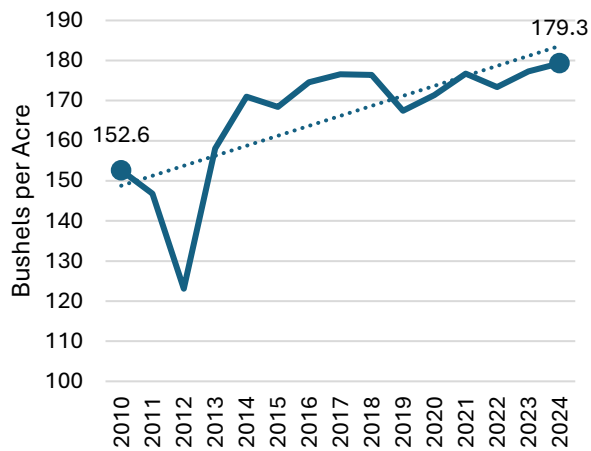
Figure 1. California Consumption of Grain-Based Ethanol



The Amount of Cropland Needed to Meet California Demand for Grain-Based Ethanol Has Steadily Fallen Since 2011

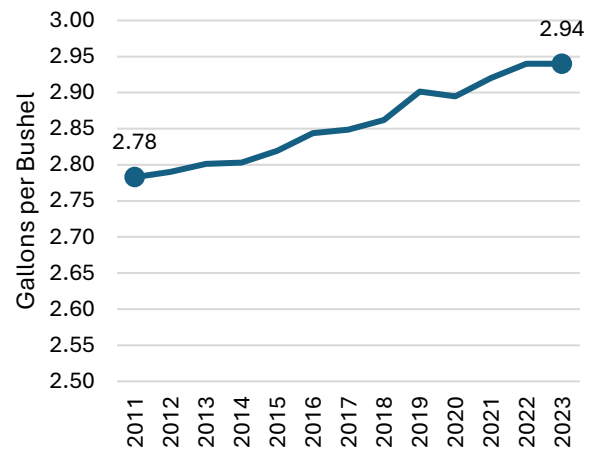
While the amount of grain-based ethanol consumed in California has been relatively stable since 2011, the amount of land needed to produce the ethanol used in California has steadily fallen. The decrease in land use for California ethanol is explained by two primary factors: 1) U.S. grain yield per acre has increased over the 2011-2023 timeframe, meaning more corn and sorghum is grown per unit of land (Figure 2), and 2) ethanol biorefineries are getting more ethanol out of each bushel of grain processed (Figure 3). The combination of these factors means that California ethanol demand was met with nearly 740,000 fewer acres in 2023 than in 2011 (Figure 4). Thus, the supposed increase in feedstock demand and cropland expansion that CARB's sustainability provisions were intended to protect against have not materialized for grain-based ethanol; in fact, just the opposite is occurring.

Figure 2.
Average U.S. Corn Yield per Acre



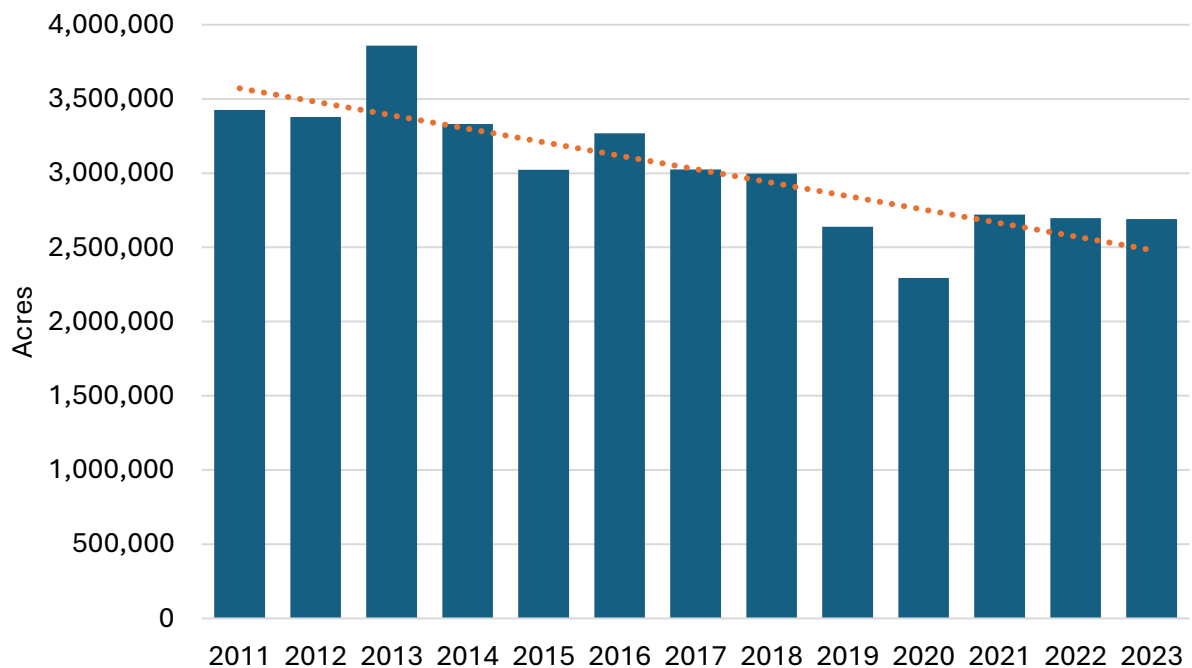
Source: USDA

Figure 3.
Average U.S. Ethanol Yield



Source: RFA based on USDA and EIA data

Figure 4. Land Area Needed to Meet California Demand for Grain-Based Ethanol



Source: RFA based on USDA, EIA, and CARB data

Less than 1 Percent of U.S. Cropland is Needed to Satisfy California Demand for Grain-Based Ethanol

In 2023, just 2.689 million acres of cropland were needed to satisfy California's demand for grain-based ethanol. That is equivalent to just 2.8 percent of the 94.641 million acres of corn planted in the United States and just **0.7 percent** of the 385 million acres of U.S. agricultural cropland in 2023 (as estimated by the U.S. Environmental Protection Agency).

Moreover, it is critically important to recognize that the 2.689 million acres of cropland used to meet California ethanol demand in 2023 (1.371 billion gallons) also produced 3.4 million tons of highly nutritious animal feed called "distillers grains." This low-cost feed ingredient is widely used to nourish livestock and poultry across the country, including dairy cows and chickens in California.

Several Factors Other than the LCFS Influence California Ethanol Demand

CARB appears to presume that the LCFS program is the only significant demand driver for biofuels usage in the state and that new sustainability requirements can be used as a "brake" to control or limit the volume of crop-based biofuels consumption.

For ethanol, however, there are several other important factors that determine demand levels in California. While ethanol has been a substantial source of carbon credit generation under the LCFS, it is broadly understood that a significant amount of ethanol would be needed in the state even in the absence of an LCFS program.

Most gasoline blendstock produced by petroleum refineries today must be blended with 10 percent ethanol to achieve the minimum levels of octane necessary for sale at retail. In addition, California fuel refiners and importers must comply with federal Renewable Fuel Standard (RFS) obligations, and blending ethanol is the most economical way for them to do so.

Thus, because of ethanol's value as a motor fuel component, implementing sustainability requirements as part of the LCFS may not limit or constrain its use in California (which is apparently CARB's goal). But it would create unnecessary and impractical cost burdens on the entire ethanol supply chain, which in turn would result in higher fuel prices for California consumers.