Union of Concerned Scientists

To: California Air Resources Board

From: Jeremy Martin

Date: October 16th, 2024

Subject: Comments on Low Carbon Fuel Standard October 15-day changes

Thank you for the opportunity to comment on this important regulation. While several useful changes were made to provisions governing transportation electrification in the October 15-day changes, the proposed changes pertaining to manure biomethane are a major step backwards and must be rejected. The 15-day changes also fail to strengthen the inadequate safeguards for crop-based fuels proposed in August, and instead weaken that proposal by delaying its implementation for more of the marketplace. These two changes must be remedied before the amendments are finalized.

Specifically, on biomethane we recommend removing the proposed changes to subsection 95488.9(f)(3)(A) and (B) that extend crediting periods for avoided methane and introduce a last-minute grandfathering provision for manure digester projects that break ground before 2030.

On renewable diesel, subsection 95482(i) should be revised as follows:

> Biomass-based diesel, alternative jet fuel and renewable gasoline produced from soybean oil, canola oil, and sunflower oil is eligible for LCFS credits for up to twenty percent combined of total biomass-based diesel annual production reporting, by company, based on the following transaction types: production in California, produced for import, and import. Any reported quantities of biomass-based diesel, alternative jet fuel and renewable gasoline produced from soybean oil, canola oil, and sunflower oil in excess of twenty percent on a company-wide basis will be assigned the carbon intensity found in Table 7-1 of the LCFS regulation for ULSD in the case of bio-based diesel, FJF in the case of alternative jet fuel and CBOB in the case of renewable gasoline ~~the carbon intensity benchmark shown in Table 2 in Section 95484(e) for the applicable data reporting year, or the certified carbon intensity for the associated fuel pathway – whichever is greater~~. For companies with biomass-based diesel pathways certified prior to the effective date of the regulation and for which the percentage of biomass-based diesel produced from soybean oil or canola oil was greater than 20 percent of combined reported biodiesel and renewable diesel quantities for 2023 LCFS reporting, this provision takes effect beginning January 1, 2028.

In addition to making these urgent changes before finalizing this rulemaking package, there is additional work that must proceed in the months and years to come. More details on why these changes are necessary and on the work that must continue next year is below.

Biomethane

We strongly oppose the proposed changes to subsection 95488.9(f)(3)(A) and (B) that extend crediting periods for avoided methane and introduce a last-minute grandfathering provision for manure digester projects that break ground before 2030. The new language in both subsections should be rejected. The

changes to 95488.9(f)(3) (A) would extend crediting periods far longer than is economically justified, and constitutes an excessive subsidy for dairies paid for by drivers. The changes to 95488.9(f)(3) (B) preempt a forthcoming rulemaking and allow credits for avoided methane pollution to continue for decades after the underlying regulatory structure that justifies crediting avoided methane emissions has changed. The existing rules provide for one 10-year period, which is sufficient to provide regulatory certainty and cover the costs of the digester. It is time to phase it out and hold dairies responsible to mitigate their own pollution with the same support available to other LCFS pathways.

The recent analysis of Professor Aaron Smith makes it clear that "after the initial 10-year crediting period, there is little economic justification to continue these credits [for avoided methane emissions]"[1].

> *After the first 10 years, once capital costs have been paid, there is little economic justification for digesters to receive prevented methane LCFS credits. At current prices, credits from the RFS, plus the component of the LCFS credit stemming from fuel combustion, are more than sufficient to cover costs. This statement is particularly pertinent for the two thirds of digester credits generated outside the state. The federal program is providing enough to keep these digesters running; California drivers are effectively donating additional dollars.*

One result of extending these subsidies will be that economic distortions caused by LCFS subsidies for digesters in milk and meat markets across the United States will persist until almost 2050, and in some cases longer. CARB has responded to this concern with the claim that there is not clear evidence that LCFS subsidies have already led to measurable changes in herd size at dairies with digesters. While we agree that LCFS subsidies are not the only factor responsible for dairy consolidation, extending these excessive subsidies after the capital costs of the digesters have been recouped would provide windfall profits that tilt the playing field in favor of the largest dairies. This is not necessary or justified to meet California's dairy methane reduction targets.

CARB initially justified these subsidies because California dairies were not otherwise required to mitigate their own methane pollution. As we have discussed in previous comments, it is essential that CARB initiates a rulemaking process outside of the LCFS to directly regulate dairy methane emissions as soon as possible. The last-minute addition of this consequential grandfathering provision in the LCFS amendment inappropriately preempts the discussion of how best to structure regulations on dairies by shielding a large number of potentially regulated parties from the impact of the regulation before that important regulatory process has even started. The grandfathering provision also locks in this lavish subsidy for many years after the technical justification has ended. This means that a substantial share of the credits issued by the LCFS will not reflect real emissions reductions based on up-to-date lifecycle analysis.

Using the LCFS to support digesters means that California drivers end up covering the costs of the subsidies for digesters, and not just in California but across the United States. Providing a single 10-year crediting period in which digester projects are credited with avoided methane emissions is already a generous approach, which covers the costs of investments required to comply with forthcoming regulations of dairies. After dairy regulations go into effect and the initial 10-year crediting period expires, dairies should be held accountable to mitigate their own pollution.

[1] https://energyathaas.wordpress.com/2024/10/14/how-much-should-dairy-farms-get-paid-for-trapping-methane/

Winding down the counterproductive treatment of avoided methane pollution in an orderly way will help ensure that emissions benefits claimed by the LCFS are real and based on up-to-date lifecycle assessments.

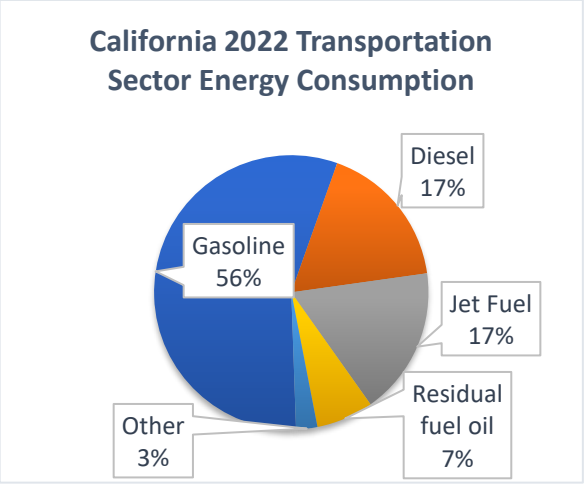
Food-based fuels

The proposal in the August 15-day changes to limit credit generation for vegetable oil-based diesel fuels to 20 percent of feedstock enforced on biofuel producers, while a step forward, is inadequate and poorly structured. We oppose the proposal in the October 15-day changes to exempt all current pathway holders from the limit until 2028. In our comments on the August 15-day changes we suggest several ways the present proposal could be made more effective with simple changes so that it could be implemented without delay. These include expanding coverage to all fuels including jet fuel, not just diesel, and changing the CI assigned to fuel over the 20 percent limit to ULSD in the case of diesel fuels and the appropriate fossil comparator in the case of jet fuel or gasoline. We still believe these changes are an appropriate short-term expedient to strengthen efficacy of the proposed safeguard. However, if the staff is developing a safeguard to implement starting in 2028, we suggest a more effective structure that caps the use of key feedstocks across the whole market.

Extend the 20 percent limit to all fuels (especially jet fuel)

As discussed extensively in our earlier comments, it is likely that by 2028 most if not all of the diesel fuel consumed in California will be bio-based diesel. The CATS model projects about 3.5 billion gallons of total diesel fuel consumption. If 20 percent of this total was produced from vegetable oil, it would require more than 2.5 million metric tons of vegetable oil as feedstock, a 60 percent increase over 2023.

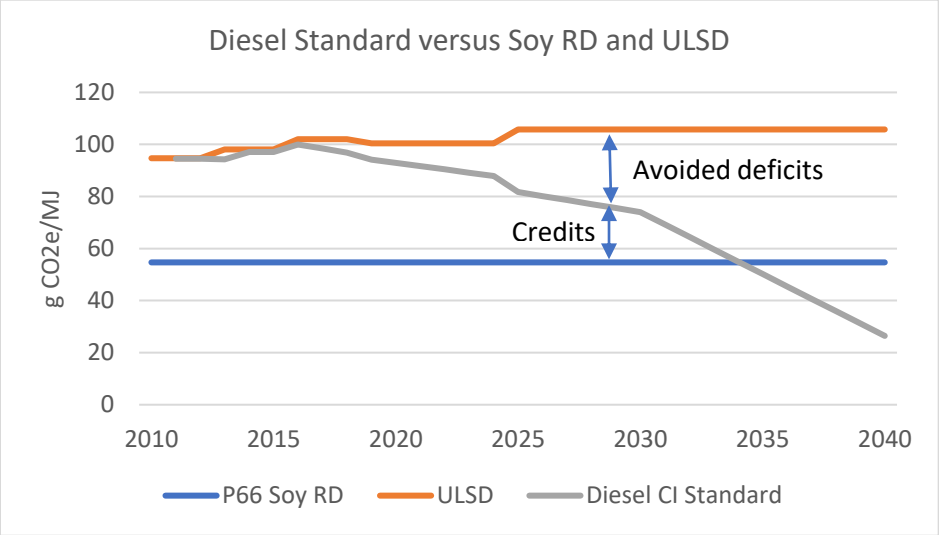
A 60 percent increase in vegetable oil consumption by 2028 would already be a large and unsustainable increase, but it could end up being much larger because the limit on credit generation does not apply to jet fuel or gasoline. In 2022, California used as much jet fuel as diesel, and jet fuel use is expected to rise even as diesel use falls. The federal government is increasing policy support for bio-based jet fuel and many companies are announcing plans to produce bio-based jet fuel. It would be much better to send a clear market signal before bio-based jet fuel producers make investments to produce vegetable oil-based jet fuels rather than waiting until a problem arises.



Apply the fossil USLD Carbon intensity to fuels over the 20 percent limit

A second fatal flaw in the proposed safeguard is that it does not stop increased diversion of vegetable oil to fuel, it merely reduces its compliance value under the LCFS by a modest amount. When an obligated party sells vegetable oil-based renewable diesel instead of fossil diesel that fuel is directly and indirectly subsidized by 5 distinct mechanisms: LCFS credit generation; avoided LCFS deficit generation associated with the fossil diesel the renewable diesel replaces; avoided cap and trade allowances associated with the fossil diesel; RIN generation under the federal Renewable Fuel Standard; and federal tax credits. Eliminating LCFS credit generation will have a modest impact on the total value of these stacked subsidies, and thus may not provide an adequate disincentive to stop the increased use of vegetable oil-

based fuels. As shown in the figure below, as the LCFS diesel standard gets more stringent, LCFS credits become less important than avoided deficits. By 2028 more than half of the compliance value an obligated party receives from selling soy-based renewable diesel in place of fossil ultra-low sulfur diesel (ULSD) will come from avoided deficits associated with ULSD rather than direct credit generation for the renewable diesel. After 2030, credit generation falls rapidly, and disappears entirely by 2035, or even sooner if the auto-acceleration mechanism speeds up the compliance schedule.



If fuels above the 20 percent limit are assigned the CI of ULSD, the disincentive will be larger and will remain constant over time. This is a more significant and stable disincentive that will more effectively discourage the diversion of food to fuel.

Use the time before 2028 to fix LSCF credit tracking systems and software to allow for market-wide limits

If CARB intends to delay implementation for almost all relevant parties until 2028, it should use this time to implement a more effective and efficient safeguard. The proposed safeguard is inadequate because it does not prevent continued increases in the diversion of vegetable oil from food to fuel. Strengthening the proposal as described above would be an improvement, but adjusting the incentive for producers and hoping the market solves the problem is not adequately protective given the severe harm of increasing diversion of food to fuel and won't protect food consumers or stop deforestation. A more direct and effective safeguard is needed to guarantee that vegetable oil diversion stops increasing. CARB should transition as quickly as possible from a safeguard that adjusts CI scores to a market-wide limit on the quantity of vegetable oil used for any fuel.

A market-wide safeguard should remove all compliance value for vegetable oil feedstock use above the cap under California policy (including LCFS credits, avoided LCFS deficits, and reduced cap and trade allowances). In other words, fuels above the cap should be treated as equivalent to fossil diesel under all California policies. Implementing the cap across the market rather than on individual fuel producers will allow each biofuel producer flexibility to use the feedstocks they have access to, compete within the market-wide cap, and produce the fuels the market demands, whether that is diesel, jet fuel or gasoline.

Establishing a market-wide safeguard will require changes to the systems and software used to administer the LCFS. Specifically, CARB must tag LCFS credits indicating their origin/feedstock to enable sensible limits to be enforced on obligated parties use of credits associated with high-risk feedstocks to demonstrate LCFS compliance. CARB should make these changes promptly and once the systems are in

place it can replace the inadequate safeguards proposed in these amendments with safeguards that are more protective of the environment and food markets. This will address the current problems with excessive use of vegetable oil-based fuels but will also make the program stronger, more flexible and better able to respond to emerging future challenges.

While diversion of vegetable oil from food to fuel is the most pressing concern today, the rapidly increasing diversion of tallow and used cooking oil from existing markets around the world to California is also a concern. These resources are not wastes and will be backfilled in other markets with vegetable oil or other resources. Brazil and China are currently exporting a lot of these feedstocks to supply California but will need these resources over time to supply their own markets with low carbon fuels. California's climate policies are most impactful when they are transferable, which is not the case with the current rapid scaleup of tallow and used cooking oil imports to make fuels in California.

Also, while use of corn for ethanol has been stable in the last decade, without appropriate safeguards it could once again become a major problem in coming years. For the last decade, the E10 blend wall has constrained the amount of corn ethanol that is consumed in California. But a pending approval of E15 and scale up of ethanol-based jet fuel could lead to a harmful surge in the use of corn-based fuel. The poorly designed safeguard proposed in the case of bio-based diesel fuels would not transfer readily to concerns about corn, since ethanol producers generally do not have access to alternative feedstocks. Rather than waiting until a problem emerges and then taking years to design and implement a workable safeguard, it would be better for all market participants if California made it clear in advance that it will not allow damaging surges in diversion of food to fuel. Setting a ceiling on food used for fuels before a crisis occurs will send a clear market signal and allow fuel producers and obligated parties flexibility to adjust their strategies within the guardrails. A market-wide cap on the use of corn for fuel would allow E15 and ethanol-based jet fuel to grow gradually and offset declining use of ethanol in E10. This transition could be guided by the market while still providing an assurance that a boom in the use of corn-based fuels does not become a disruptive crisis like the recent renewable diesel boom.