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Chief, Industrial Strategies Division
California Air Resources Board
1001 I Street Sacramento, California 95812

Ms. Rajinder Sahota
Deputy Executive Officer
Climate Change & Research
California Air Resources Board
1001 I Street Sacramento, California 95812

Comments on LCFS 15-Day Changes

Dear Mr. Botill and Ms. Sahota,

Thank you for the opportunity to provide comments on the proposed modifications to the text of the LCFS amendment issued August 12, 2024 (the "15-day Changes"). Be8 is the largest biodiesel producer in Latin America with two plants in southern Brazil, a production facility in Paraguay, and a subsidiary in Switzerland. As an international renewable energy company, Be8 implements new energy matrices through a circular innovation ecosystem. In February 2022, the company became the first Brazilian biodiesel producer to export to the United States under the Renewable Fuel Standard (RFS) Program, according to the reporting ID 82361.

1. The 2025 Step-Down and AAM

We appreciate CARB's increasing the one-time step-down from 5% to 9% in 2025. As for the AAM, we are concerned that its first potential triggering remains as in the 45-day package with 2028 the first year for which it can amend CI reduction targets. Instead, we recommend that 2025 performance should be able to trigger the AAM, which would then be able to impact CI targets in 2027.

We believe the AAM should be allowed to trigger as early as possible, to guard against the case where the step-down is not sufficient to address the current credit bank oversupply. This is especially this case since CARB did not include the more aggressive step-down in 2025 as recommended by many stakeholders in comments on the 45-day package.

2. The Cap on Credits on Biomass-Based Diesel ("BBD") from Soy and Canola

We were surprised by the inclusion of the 20% cap on credit generation for BBD produced from soy and canola. As CARB made clear in its April 10th LCFS workshop (the "Workshop") such a cap will likely result in fossil diesel replacing renewable diesel and biodiesel in the California fuel pool, causing deleterious health effects for Californians living in disadvantaged communities near heavy-duty trucking corridors. We also believe the cap is unnecessary.

- a. As CARB made clear in the Workshop, soybean oil BBD will become deficit generating by 2033 at the latest and perhaps 2030 if the AAM mechanism is triggered twice. The use of SBO as a feedstock will phase out then, rendering the cap unnecessary.
- b. Furthermore, as CARB explained in the Workshop, the science doesn't exist to justify a cap on crop-based biofuels at this time.
- c. What's more, as CARB also made clear in the Workshop, the LCFS already contains guardrails that disincentivize the use of crop-based feedstocks through

the inclusion of an indirect land use change CI penalty and sustainability requirements. The amended LCFS will contain stringent sustainability requirements including certification by an internationally recognized body and third-party verification.

d. Additionally, as the 2022 Scoping Plan sets forth, and CARB has reiterated in the amendment proceeding, including in the Workshop, internal combustion engines will be on California roads for years to come - the heavy-duty fleet turns over slowly. What's more, heavy-duty trucking is extremely difficult to electrify, and projections are that there will not be enough hydrogen production or refueling infrastructure anytime in the foreseeable future.

As the Scoping Plan noted, the answer in the transition period is the use of low carbon liquid fuels like BBD for the heavy-duty trucking sector. (Today BBD only accounts for about 75% of the California diesel pool.)

While the LCFS incentivizes the use of waste-based feedstocks to make BBD due to the iLUC penalty on crop-based feedstocks, and the majority of BBD used in California is produced from waste-based feedstocks, there are clear signs that there will not be enough of them by 2030 or 2033 to supply the market. This will be especially true as renewable diesel production continues to skyrocket.

The most problematic waste-based feedstock is used cooking oil ("UCO"). More than ½ of the UCO used to produce US BBD comes from China. EPA recently announced that it is investigating at least two biofuel producers amid concerns they are using virgin palm oil disguised as allowable UCO as feedstocks to generate RINs. The EU is also investigating the same issue.

Without valid Chinese UCO there will not be sufficient feedstocks for the necessary RD production unless producers can generate LCFS credits on the crop-based RD they produce.

3. The possible end of BBD fuel pathways

A second surprise in the 15-day Changes is the inclusion of a provision allowing for the possibility of CARB not accepting fuel pathway applications for BBD starting on January 1, 2031. Again, this provision was not workshopped or discussed before the 15-Day Changes.

Since CARB has made clear that there will not be electrification of heavy-duty trucking for many years to come, this provision doesn't make sense, even if the decision to do so is within the Executive Officer's discretion. It just adds another layer of uncertainty to the LCFS, undermining the very purpose of the regulation.

If CARB continues to insist on this type of provision, the triggering mechanism should be limited to the number of ZEV or near-ZEV classes 7 & 8 vehicles, i.e., the heavy-duty trucking categories, since these are the ones that are hard to electrify.

4. The 15-Day Changes reflect an out-of-date GTAP-BIO model and data bases to determine iLUC

On p. 10 of the Notice, CARB described its proposed changes to Table 6, Land Use Change Values for Use in CI Determination as follows:

In section 95488.3(d), Table 6, staff proposes to add specification of the geographic region to Table 6 identifying where land use change (LUC) carbon intensity was modeled for specific feedstock/fuel combinations. **Table 6 LUC values were estimated through the GTAP and AEZ-EF modeling framework developed by CARB with input from an expert**

working group in 2010 and were updated during CARB's re-adoption of the LCFS program in 2015.

It was at this time that CARB assessed the iLUC for soy BBD at its current value of 29.1. However, as Dr. Farzad Taheripour et al explain in their June 2023 report entitled *Biodiesel induced land use changes: An assessment using GTAP-BIO 2014 data base*, CARB's assessments of LUC value were made using an earlier version of the GTAP-BIO model than is used today, as well as a 2004 database. However, the 2004 data base has been updated twice since then, once in 2011 and again in 2014. In addition to updating the data base, the Purdue GTAP team has also greatly improved the GTAP-BIO model to consider intensification due to multiple cropping and/or conversion of idled land to crop production.

Therefore the 2004 data base and model CARB has been using are already seriously out-of-date, and CARB will be compounding the problem in the upcoming amendment by continuing to use them. Since the Scoping Plan requires CARB to use "the best available science" when computing emissions from crop-based feedstocks, we therefore request that CARB use the current GTAP-BIO model and 2014 data base to calculate iLUC for such feedstocks.

Furthermore, we request that CARB continue to accord an equivalent iLUC value to Argentine soy as the iLUC value for US soy BBD. In addition to the same iLUC value we also request that CARB continue to accord Argentine soy farming emissions an equivalent value to those of US soy.

5. Eliminating fossil jet fuel as a deficit generator

In the 45-day text there was a provision adding fossil jet from in-state jet fueling as a deficit generator. Without prior discussion, CARB removed the provision from the 15-Day

Changes. We request that CARB add the provision back into the document sent to the CARB Board for adoption consideration.

6. Sustainability Requirements for Biomass

Please clarify whether wood chips used as process energy is intended to be included in the requirements of the first sentence of section 95488.8(g)(1)(A), i.e., "Biomass used in fuel pathways must only be sourced on land that was cleared or cultivated prior to January 1, 2008, and actively managed or fallow, and non-forested since January 1, 2008." If so, we request that it not be, or else it will be impossible for any biofuels producer to use wood chips as process energy.

Regarding Section § 95488.9: Special Circumstances for Fuel Pathway Applications, specifically item (g) Sustainability Requirements for Biomass, Be8 makes the following comments:

Given the proposed requirement for biomass certification from point of origin to the first gathering point, Be8 recommends:

- a. **Phase-in Implementation and Mass Balance System:** To ensure a smooth transition, CARB should consider a phased-in approach incorporating a mass balance system. This system, similar to the ISCC EU System Document 203, would enable accurate tracking and accountability throughout the biomass supply chain, enhancing transparency and ensuring compliance.
- b. **Specific Certification Requirements:** For biomass used in process energy, CARB staff should clearly outline applicable certifications and their criteria. This will provide biomass suppliers with the necessary guidelines to meet compliance requirements within the proposed timeline.

- c. **Deforestation Monitoring and Satellite Imagery:** To verify that biomass is sourced from land cleared or cultivated prior to January 1, 2008, CARB should specify the use of satellite imagery. Programs like ISCC and RenovaBio have successfully employed this method, utilizing third-party verification and satellite imagery with high spatial resolution (e.g., Landsat-8 or Sentinel-2).
- d. **Deforestation Evaluation and Biomass Exclusion:** For areas identified as deforested after January 1, 2008, the regulation should clarify whether all biomass from the property should be excluded or only the portion originating from the deforested area.
- e. **Default Emission Factors for Woodchips:** Given the established default emission factor (0.03 kg/CO₂eq/Kg) for woodchips in programs like RenovaBio and ISCC, CARB staff should explain why this value would not be considered or provide an alternative default. This would support the use of woodchips as a renewable process energy source.

Be8 is committed to contributing to sustainable biomass management and advocates for the use of established methodologies to achieve our collective goals. By implementing the above recommendations, CARB can effectively regulate biomass use in fuel pathways while promoting environmental sustainability and reducing emissions.

In closing, we note that there is sufficient time before the November Board meeting for CARB to issue a second 15-day package. We request that CARB do so in view of new and unexpected provisions in the 15-Day Changes.

Sincerely,

DocuSigned by:

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Ricardo Franzen Reckziegel
Commercial Director