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**Via Email: [sakinah.carter@arb.ca.gov](mailto:sakinah.carter@arb.ca.gov)**

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Industrial Strategies Division  
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**Re: Comments in Response to Request for Information for Tracking Feedstock Characteristics (TFC), Event Number 2024-TFC-ISDRFI-001**

The Renewable Fuels Association (RFA) appreciates the opportunity to submit these comments in response to the California Air Resources Board's (CARB) Request for Information for Tracking Feedstock Characteristics.

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.

**Background**

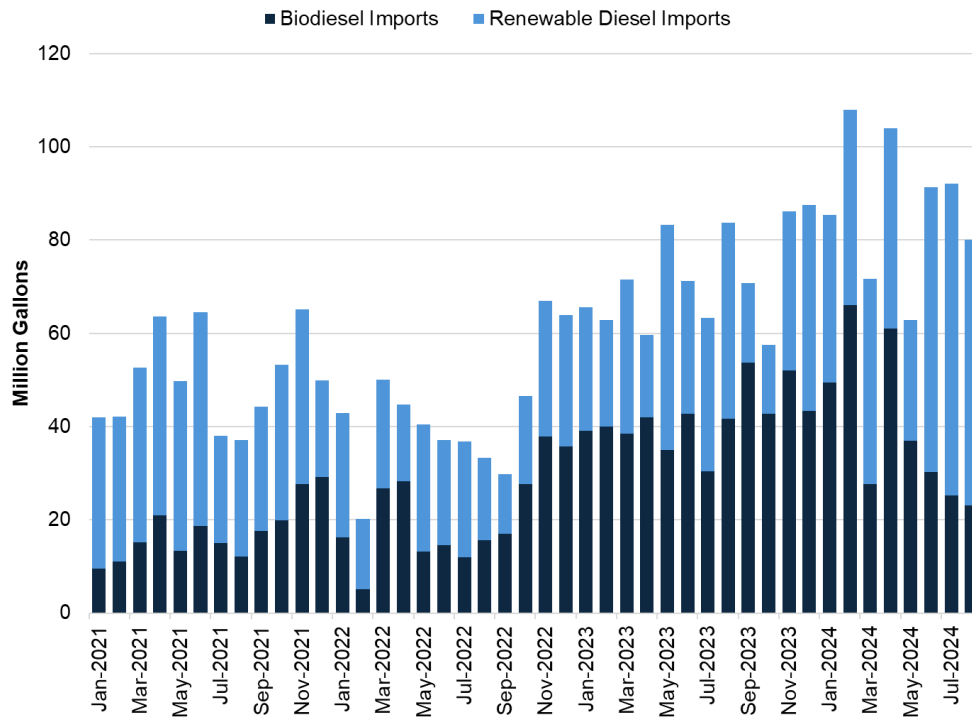
According to CARB data on fuel consumption in California, usage of biomass-based diesel (BBD) that was produced from used cooking oil (UCO) doubled from 2019 to 2023, while usage of BBD produced from tallow tripled.<sup>1</sup> Incentivized by the state's Low Carbon Fuel Standard (LCFS), U.S. imports of BBD have increased (Figure 1), and imports of UCO and tallow, which are processed into BBD by U.S.-based facilities, have risen dramatically (Figure 2).

Imports of UCO from China were negligible prior to the start of 2023 but have increased sharply since then, reaching nearly 400 million pounds on a monthly basis at times in 2024—enough to produce approximately 50 million gallons of BBD (Figure 3). A similar situation exists for tallow; Brazil has been the largest origin of U.S. imports since the beginning of 2023. Together, BBD from UCO and tallow accounted for 55% of the total BBD used in California in 2023, according to CARB data.

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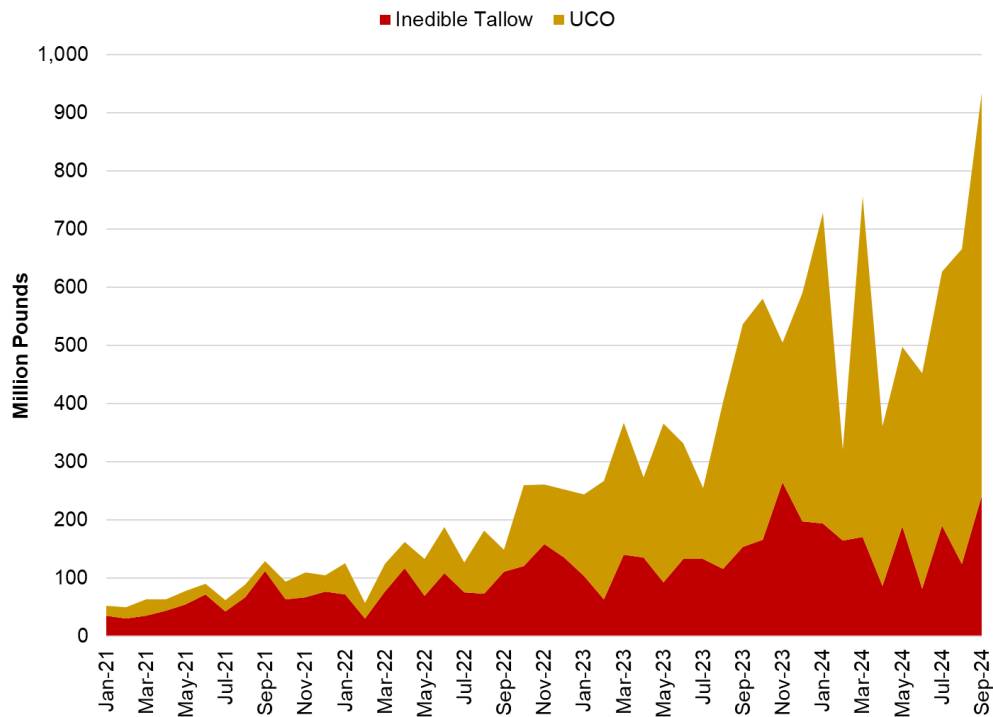
<sup>1</sup> <https://ww2.arb.ca.gov/resources/documents/low-carbon-fuel-standard-reporting-tool-quarterly-summaries>

**Figure 1: U.S. Imports of Biomass-Based Diesel**



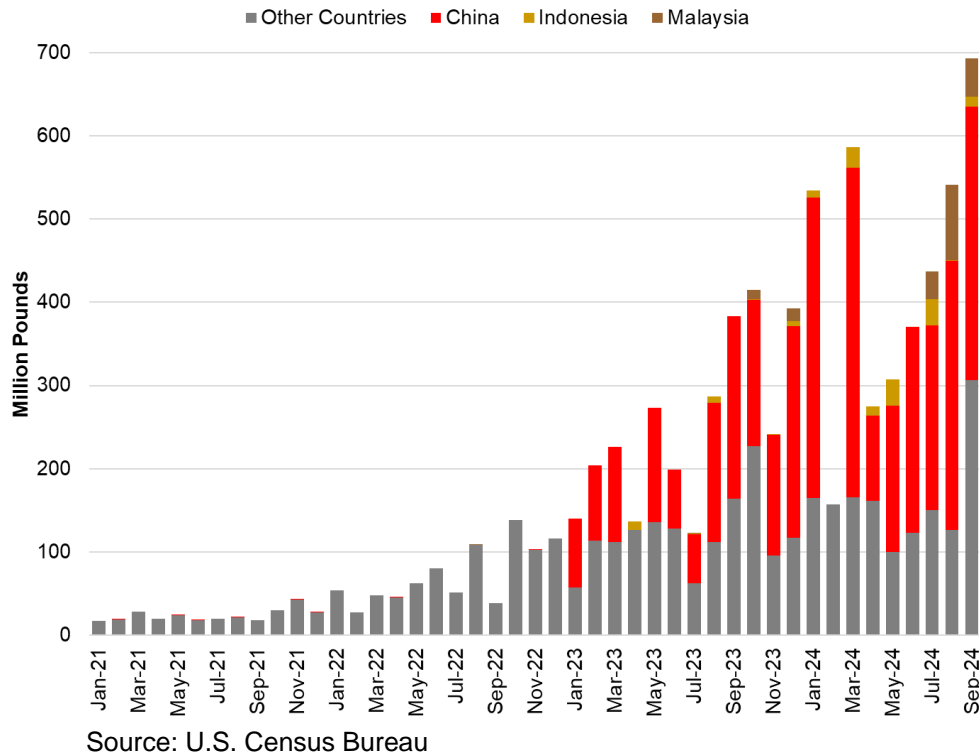
Source: U.S. Energy Information Administration

**Figure 2: U.S. Imports of Used Cooking Oil and Inedible Tallow**



Source: U.S. Census Bureau

**Figure 3: U.S. Imports of Used Cooking Oil, by Origin**



**Steps That Should Be Taken by California Regulators**

UCO and tallow are specified source feedstocks under the LCFS and, in principle, “[f]uel pathway applicants using specified source feedstocks must maintain ... [c]hain-of-custody evidence [that] must be provided to the verifier and to CARB upon request.”<sup>2</sup> However, in reality, many biofuel market participants and other observers have expressed concerns about the legitimacy of imported “waste” feedstocks and have questioned whether some volumes of UCO in particular may contain palm oil and/or other incorrectly labeled fats, oils, and greases. These concerns have been heightened in recent months as Indonesia and Malaysia, which jointly account for nearly 85% of world palm oil production, have emerged alongside China as leading origins of UCO imported into the U.S.<sup>3</sup>

This flood of foreign feedstock has suppressed demand and prices for domestically produced feedstocks like distillers corn oil, which is produced by the ethanol industry. Moreover, the impact extends beyond the LCFS program. Significant volumes of imported waste-based BBD, along with BBD produced domestically from imported UCO and tallow, that are consumed in California are also being used to satisfy conventional renewable fuel volume obligations under the federal Renewable Fuel Standard,

<sup>2</sup> [https://ww2.arb.ca.gov/sites/default/files/2020-07/2020\\_lcfs\\_fro\\_oal-approved\\_unofficial\\_06302020.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-07/2020_lcfs_fro_oal-approved_unofficial_06302020.pdf)

<sup>3</sup> <https://fas.usda.gov/data/production/commodity/4243000>

undermining demand for ethanol (and, especially, its use in higher blends like E15 and E85).

RFA and its producer-members are very concerned that the import surge described above has exposed deficiencies in the existing recordkeeping requirements under the LCFS (and the Renewable Fuel Standard).

The existing regulations do not require BBD producers or their suppliers to provide documentation verifying the legitimacy of the feedstock using chemical analysis or any other empirical methods. None of the documentation currently required can be used to definitively verify that imported UCO and tallow feedstocks are being accurately defined and classified. While there is likely a role for more-rigorous recordkeeping at the feedstock origin—especially for UCO from China, Indonesia and Malaysia—so far, a “paper trail” alone has not been sufficient to verify conclusively that feedstock is indeed derived from the sources claimed by the supplier or BBD producer.

CARB should require that BBD producers conduct chemical analysis on batches of imported UCO and tallow and provide associated documentation to substantiate that feedstocks are properly characterized and that the resulting BBD qualifies for the carbon intensity score it receives under the LCFS. To ensure the chemical makeup of the feedstock is not purposely or inadvertently altered at some point in the supply chain, testing should be required at both the point of collection and at the final destination, and the analyses should match.

RFA believes there are analytical methods that can be used to fill gaps in chain-of-custody processes to help differentiate between used, slightly used and virgin cooking oils that are used to produce finished fuels. Cooking oils undergo compositional and oxidation changes when used in food preparation. Targeting some of these changes could provide some reassurance that materials destined for conversion to BBD meet both state and federal requirements.

Analyzing characteristics surrounding the fatty-acid profile of virgin material, as well as oxidation and the Maillard component in UCO, could provide additional clarification as to feedstock source(s). Total Polar Materials (TPM), which are usually quite low in virgin oils, could be used to indicate that feedstock oils have indeed been used primarily in cooking. TPM is an accumulation of degraded fats and food residues that are present in oils after their use in food preparation. Additionally, elevated Peroxide Value (PV) is often an indicator of repeated heating and can also indicate directionally as to the prior uses of UCO imports. Lastly, Fatty Acid Profile Analysis can be conducted. Fatty acid profile tends to be stable and specific to an oil’s source, but it can become degraded or rearranged by exposure to high temperatures, indicating a prior use history.

CARB should determine on an expedited basis whether one or a combination of the methods described above or submitted by other parties in response to the RFI is fit for purpose to build a use history of UCO feedstock sources and composition. An examination of protocols that have been developed for use in industries with a history of

product adulteration (e.g., honey, maple syrup, and olive oil) could also provide an analog for building a robust, certified feedstock supply chain.

In addition, CARB should carefully consider the input and recommendations provided by commercial laboratories, verification bodies, and entities who offer technology solutions for identifying mislabeled feedstock.

### **Conclusion**

Thank you for the opportunity to submit these comments. RFA urges CARB to use information gained from the RFI, potentially supplemented with other internal and external expertise, to move forward expeditiously to implement protocols to ensure the integrity of waste feedstocks used to produce biofuels for the LCFS. We would be available for continued engagement on this issue.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Richman". The signature is fluid and cursive, with a long horizontal stroke at the end.

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