

February 20, 2024

Liane Randolph  
Chair, California Air Resources Board  
1001 I St  
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Clean Air Task Force  
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## Re: CATF Comments on CARB's Proposed Low Carbon Fuel Standard Amendments

Dear Chair Randolph,

Thank you for the opportunity to comment on CARB's proposed amendments to the Low Carbon Fuel Standard (LCFS). Clean Air Task Force (CATF) is a global nonprofit organization working to safeguard against the worst impacts of climate change by catalyzing the rapid development and deployment of low-carbon energy and other climate-protecting technologies. These comments convey our concerns regarding the proposal's treatment of biomethane crediting and bio oil-based fuels, and we recommend constructive actions CARB can take to address these concerns.

### Biomethane Crediting Provisions

LCFS credits generated under pathways utilizing biomethane from dairy and swine manure provide valuable incentives to invest in technologies like anaerobic digesters, which can be an effective tool for managing methane emissions from manure. More than half of methane emissions in California are from the livestock sector, with 25% of total methane coming from manure,<sup>1</sup> a consequence of California's predominant large herd production systems and their manure management. While CATF recognizes the need to provide incentives for anaerobic digesters, we are concerned about the LCFS locking in very lengthy crediting periods despite a lack of robust scientific literature on a number of critical topics.

- Farming Management Practices. There are uncertainties about the current LCFS policy's impacts on farming management practices, such as the risk of subsidies accelerating the rate of consolidation of livestock herds, driving an increase in herd size, and leading to changes in manure management practices.<sup>2</sup> CARB has publicly stated that it has a lack of evidence that the implementation of LCFS is contributing to dairy farm consolidation and increased herd size.<sup>3</sup> However, the UC Davis analysis<sup>4</sup> referenced by CARB used a "cows per farm" statistic, and the study's author advises that further analysis using data from the USDA's Census of Agriculture<sup>5</sup> (released in February 2024) would be better to answer this question. Furthermore, because LCFS subsidies benefit dairies outside of

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<sup>1</sup> <https://ww2.arb.ca.gov/sites/default/files/2022-03/final-dairy-livestock-SB1383-analysis.pdf>

<sup>2</sup> [UCLA Emmett CA Dairies 1ccc FINAL 1.23.pdf](https://www2.arb.ca.gov/sites/default/files/2022-03/final-dairy-livestock-SB1383-analysis.pdf)

<sup>3</sup> <https://ww2.arb.ca.gov/sites/default/files/barcu/board/mt/2023/mt092823.pdf>

<sup>4</sup> [Are Manure Subsidies Causing Farmers to Milk More Cows? | Aaron Smith \(ucdavis.edu\)](https://www2.arb.ca.gov/sites/default/files/barcu/board/mt/2023/mt092823.pdf)

<sup>5</sup> <https://www.nass.usda.gov/AgCensus/>



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California, analysis of the impacts on farming management practices should also consider farms outside the state.

- **Increased Methane Emissions.** Some changes in manure management, such as transitioning from land application to long-term storage,<sup>6</sup> may increase methane emissions. In addition, increases in herd sizes may also lead to an increase in methane from enteric emissions. Critically, enteric emissions are currently not included in the LCFS's lifecycle emissions analysis for biomethane from manure.<sup>7</sup> While CARB does not account for these upstream emissions, if there is an increase in enteric emissions as a direct effect of LCFS policy, progress toward meeting the SB 1383 target for livestock methane emissions reductions may be negatively affected.

Given the long-term commitment in the proposed LCFS amendments to fully credit avoided methane emissions and the lack of robust scientific data about the current LCFS policy's holistic impacts on farming management practices and subsequent methane emissions, CATF strongly recommends CARB take the following actions:

1. CARB should investigate the avoided methane crediting mechanisms, their potential to affect farm management practices, and the implications of resulting shifts in those practices. CARB should support research that uses data from the 2022 census (just released in mid-February 2024<sup>5</sup>) to investigate whether LCFS policies are accelerating the rate of consolidation in dairies participating in the LCFS in California and outside the state. Further analysis should evaluate if there is a correlation between farmers' intention to expand (based on permitting asks to increase herd size) and participation in the LCFS program. Note that because the LCFS benefits farms outside California, a simple comparison between California versus other states may represent a study bias, and the study design should account for that. These analyses would address some of the concerns around the LCFS credits supporting the deployment of anaerobic digesters in livestock farms. This could be achieved by convening an external working group comprised of experts that meet to review new science and data regarding the impacts of LCFS policy on farm management practices.
2. CARB should ensure that the final rulemaking documents explicitly provide for the possibility of adjusting crediting periods for avoided methane if future research or data indicates that the LCFS is leading to negative climate consequences such as additional methane emissions (e.g., from enteric or digestate management due to changes in farm management practices) or negative health consequences.
3. CARB should account for potential unintended increases in emissions at the farm level (from manure management and/or digestate management) and potential risk to accelerate rate-of-farm consolidation in the amendment

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<sup>6</sup> Aguirre-Vilegas and Larson, 2017. Available at [Evaluating greenhouse gas emissions from dairy manure management practices using survey data and lifecycle tools \(scienctirectassets.com\)](https://www2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/ca-greet/tier1-dsm-scienctirectassets.com).

<sup>7</sup> [https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/ca-greet/tier1-dsm-im.pdf?\\_ga=2.237395968.1206035128.1708095436-333494751.1695223517](https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/ca-greet/tier1-dsm-im.pdf?_ga=2.237395968.1206035128.1708095436-333494751.1695223517)

Appendix D, attachment B, Summary of Environmental Impacts and Mitigation Measures. The goal is to have these issues clearly mapped by CARB and added to the broader discussion of reduction in methane emissions from the dairy sector.



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## Sustainability Concerns Regarding Bio-Oil Based Fuels

CATF has submitted its detailed comments to the docket (see joint comments submitted by CATF and Pacific Environment on February 20, 2024) regarding our concerns about the risks that the LCFS amendments will result in unsustainable consumption of vegetable oil-based biofuels. Below is a high-level summary of the concerns and recommendations conveyed in that comment letter.

### Concerns:

- Without adequate safeguards, strengthening and extending LCFS carbon intensity benchmarks will likely accelerate the rapid growth in demand for bio-oil based biofuels, directly and indirectly impacting food markets and increasing emissions from land use changes;
- Including intrastate fossil jet fuel in the LCFS is an important policy signal for decarbonizing the aviation sector, but the current proposal will further increase demand for bio-oil based fuels, given that refining and hydrotreating bio-oils is currently the only commercially viable alternative to fossil jet fuel at scale; and
- The only proposed sustainability requirement for crop-based biofuels is third-party certification that the feedstocks are derived from land that has not been forested since 2008, which is too narrowly scoped to serve as an effective constraint on climate-damaging land use change.

Given these risks, we recommend the following:

1. CARB should limit the volume of first generation vegetable oil-based fuels that are eligible to generate credits under the program;
2. CARB should assess on an annual basis the direct and indirect market impacts from fuels obligated under the proposed sustainability requirements; and
3. CARB should extend the sustainability requirements beyond crop oils to used cooking oil and waste oils.

## Conclusion

Thank you for considering the concerns and recommendations expressed above. If you have any questions or would like to discuss these topics further, please contact CATF's U.S. State Climate and Energy Program Director, Jeremy Tarr, at [jtarr@catf.us](mailto:jtarr@catf.us).