

August 27, 2024

The Honorable Liane Randolph, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Proposed Amendments to the Low Carbon Fuel Standards – 15 Day Public Notice

Dear Chair Randolph,

I submit these comments as a scientist and as a project developer on behalf of my company, Mote, on the Proposed Low Carbon Fuel Standard Amendments of 2024. I urge that you adjust the definition of biomass wastes and residues to ensure carbon-negative biofuels projects in California, like Mote's, are commercially viable. Our specific recommendations are detailed below.

Biomass carbon removal and storage (BiCRS) projects, especially the gasification of biomass waste to make hydrogen and capture CO₂ for underground storage, are the lowest-cost and most scalable approach to remove CO₂ from the air, a necessary part of the State's goal of achieving net-zero emissions by 2045. I first understood this when working on the landmark report, *Getting to Neutral: Options for Negative Carbon Emissions in California*. I founded Mote to implement that finding. We are developing large scale projects that convert waste biomass into clean hydrogen and remove CO₂ from the air for underground storage. Our first such project, in Kern County, is a key hydrogen production project in the ARCHES hydrogen hub. LCFS credits are essential to starting this important industry and developing the needed technology.

For its projects, Mote plans to use forest management residues, agricultural residues, and urban greenwaste from California, all materials that for which beneficial uses are badly needed. However, the proposed definitions could severely restrict our feedstock options. Much of the waste and residue from fire prevention could be construed to include a portion of merchantable residues, for example. Additionally, for project startup, material from "industrial forest lands" is all that is currently available on the market. To penalize or make using residues from managed forests more burdensome could prevent any project from getting off the ground, even these materials will be less important in the long run. Appropriate wastes and residues, even from industrial forest lands, should be a "specified source" feedstock.



In addition, Mote recommends the following changes, which are in line with the recommendations of the Bioenergy Association of California.

(1) Modify the definition of Forest Biomass Waste as follows (edits in red):

“Forest Biomass Waste” means **residues that are 1) removed for wildfire mitigation, forest restoration projects, or the protection of public safety, or 2)** small-diameter, non-merchantable residues, limited to forest understory vegetation, ladder fuels, limbs, branches, and logs that do not meet regional minimum marketable standards for processing into wood products.”

(2) Make the following corrections to Section 95488.9(g):

(g) Sustainability Requirements for **Biomass Purpose Grown Crops**.

(A) **Biomass Purpose Grown Crops** 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. **Biomass Purpose Grown Crops** may not be sourced from land that is covered under international or national law or by the relevant competent authority for nature protection purposes.

(B) **Biomass Purpose Grown Crops** must be produced according to best environmental management practices that reduce GHG emissions or increase GHG sequestration, including but not limited to:

Thank you for your efforts to promote air quality and climate sustainability in California.

Sincerely,

A handwritten signature in black ink, appearing to read 'Joshua Stolaroff'.

Dr. Joshua Stolaroff
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