



To: California Air Resources Board

Thank you for the opportunity to again provide comments on the Board's LCFS rulemaking process. Allotrope Partners LLC, has been working for over a decade on developing sustainable demand for forest biomass waste streams in order to create long-term economic drivers for increased forest health management in California. This work closely aligns with the CARB 2022 Scoping Plan for Achieving Carbon Neutrality, specifically its goal to "accelerate the pace and scale of climate smart forest management to at least 2.3 million acres annually."<sup>1</sup>

Through our subsidiary, Allotrope Cellulosic Development Company (ACDC), we have been actively developing a cellulosic ethanol plant in Anderson, CA. The plant will utilize 330,000 bone dry-tons of biomass per year and produce 22 million gallons of low-carbon ethanol, which will ultimately be used for the production of sustainable aviation fuel (SAF), as well as approximately 500,000 MMBTUs of renewable natural gas per year. The plant will contribute to carbon neutrality while improving forest management by expanding waste biomass processing infrastructure, a strategy specifically cited in the CARB Scoping Plan,<sup>2</sup> and also improving air quality by mitigating the risk of wildfires and reducing open pile burning of forest and agricultural biomass.

ACDC presently has key technology, offtake and strategic partners in place, including Axens North America, bp, and Sumitomo Corporation of the Americas, respectively. ACDC and its partners have invested significant time and resources into the development of this project, which will be one of the largest economic opportunities benefiting Shasta County in many decades. The project will qualify for federal tax credits through the Inflation Reduction Act and is in the second stage of the USDA's 9003 loan guarantee process.

### **Forest Biomass Waste and Specified Source Feedstocks**

ACDC is concerned about what appears to be contradictions between the definition of "Forest Biomass Waste" in section 95481(a) and the definition of "Specified source feedstock" in section 95488.8(g)(1)(A)(3). The definition of Forest Biomass Waste is:

*"Forest Biomass Waste" means small-diameter, non-merchantable residues, limited to forest understory vegetation, ladder fuels, limbs, branches, and logs that*

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<sup>1</sup> CARB 2022 Scoping Plan Update, December 2022, at page 252.

<sup>2</sup> *Id* at page 252

*do not meet regional minimum marketable standards for processing into wood products.”*

Meanwhile the specified source feedstock definition is:

*“3. Forest biomass waste from non-industrial forestland removed for the purpose of wildfire fuel reduction, to reduce the risk to public safety or infrastructure, to create defensible space, or for forest restoration; and from a treatment in which no clear cutting occurred and that was performed in compliance with all local, State, and federal rules and permits.”*

This definition of a specified source feedstock as a subset of forest biomass waste creates challenges. For instance, Forest Biomass Waste, as defined, is only non-merchantable material,<sup>3</sup> but, as described in our earlier letter, material generated from wildfire fuel reduction activities in California often includes a percentage of merchantable material. In situations where, for instance, a smaller private land owner is removing material, only a portion of the material is merchantable and it can be too costly to treat the merchantable material separately and more efficient to treat all the material as Forest Biomass Waste. That cost/benefit decision is best made on a case-by-case, site-specific basis by those doing the work. By defining forestry related specified source feedstock as only non-merchantable material, certain, quite common fire mitigation activities — ones that produce some amount of merchantable material but not enough to make it cost effective to extract — will be precluded, thus discouraging rather than promoting more fire mitigation activities.

In addition, excluding “treatment[s] in which no clear cutting occurred” — another term that is not defined in the LCFS Regulation and is thus ambiguous — creates challenges. Fire breaks are essential parts of many proven fire mitigation programs, but fire breaks may well be considered clear cuts. This would further hinder additional fire mitigation activities from qualifying.

Furthermore, as discussed in our earlier letter, the term “non-industrial forestland” is ambiguous. It is not defined in the LCFS Regulation, nor does Section 95488.8(g)(1)(A)(3) reference a definition in any other regulation. While we strongly support the apparent intention to promote material from smaller landowners, we fear that

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<sup>3</sup> Note also that the term “regional minimal marketable standards” is vague and could lead to controversies as there are no third party standards that define merchantable timber material.

the inconsistencies in this definition will make it difficult for smaller landowners to take advantage of the specified source feedstock channel. We therefore respectfully request that in the Final Statement of Reasons (the FSOR) for this rulemaking the Board clarify the meaning of the term “non-merchantable” as it is used in Section 95481(a) as well as the meaning of the terms “non-industrial forestland” and “clear cutting” as they are used in section 95488.8(g)(1)(A)(3).

### **Sustainability Requirements For Forest Biomass**

We support the addition of 95488.9(g)(1)(B), which ensures that biomass sourced from forest land that meets CARB’s Compliance Offset Protocol for U.S. Forest Projects General Eligibility Requirements also will meet LCFS eligibility requirements. We are concerned that while most larger forest operators in California will qualify, there may be non-conformances such as requirements around salvage harvesting that could create challenges. We are hopeful that such issues can be addressed as part of the pathway development process, but respectfully request that the Board clarify the intent of this language in the FSOR for this rulemaking.

We believe that meeting those eligibility requirements or another “continuous third-party sustainability certification” will be a viable option for many large forest landowners that have the resources to meet such standards. But we are concerned that this approach will be difficult for smaller landowners that do not have the resources to maintain such certifications. Combined with our concerns regarding the forest biomass definition of Specified Source Feedstocks listed above, we fear that biomass from smaller forest landowners may be difficult to utilize in a manner that assures that it can qualify for LCFS credits.

A significant portion of the forest land in the “Wilderness Urban Interface” (WUI) in California is held by smaller forest landowners or as housing lots that desperately need regular treatments to ensure fire risk is minimized. We believe that, as the rules stand, it will be exceedingly difficult for the use of such material to qualify for LCFS credits.

We believe the best solution to this challenge is, as we suggested previously, that the definition of Forest Biomass Waste be amended as follows:

*“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.*

Note that if the definition of Forest Biomass Waste were amended in this manner, this would expand the amount of forests biomass that could qualify as Specified Source Feedstock. If the Board instead chooses to leave the definition of Forest Biomass Waste as is, then removing the word “waste” from the Specified Source Feedstock definition would expand the definition of Specified Source Feedstock in a manner that could provide flexibility that would enable all fire mitigation work to qualify. As such, we respectfully request that the Specified Source Feedstock definition for forest biomass should be amended as follows:

*“3. Forest biomass ~~waste~~ from non-industrial forestland removed for the purpose of wildfire fuel reduction, to reduce the risk to public safety or infrastructure, to create defensible space, or for forest restoration; and ~~from a treatment in which no clear cutting occurred and that was performed in compliance with all local, State, and federal rules and permits.~~”*

Thank you for the opportunity to contribute to this rulemaking process. Our goals are strongly aligned with the State’s vision for scaled-up forest management as a key solution to California’s wildfire crisis as well as combating climate change. We respectfully request the LCFS program rules be amended to support sustainable forest management that helps avoid megafires and associated climate and health impacts.

Sincerely,

A handwritten signature in blue ink, appearing to read "RH/A", is positioned above the typed name and title.

Robert Hambrecht  
Partner  
Allotrope Partners LLC, and its subsidiary,  
Allotrope Cellulosic Development Company LLC