

## To: California Air Resources Board

Thank you for the opportunity to once again comment on the Board's LCFS rulemaking process. Allotrope Partners, LLC, has been working over a decade on developing sustainable demand for forest biomass waste streams to create long-term economic and policy 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 to be located 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 production of sustainable aviation fuel, and 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 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 (formerly, British Petroleum PLC), 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.

## **Definition of Forest Biomass Waste**

ACDC is concerned about the definition of "forest biomass waste" on page 14 of the Appendix A-1. The document proposes to define the forest biomass waste as:

*"Forest Biomass Waste" means 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.* 

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

<sup>2</sup> IBID. Page 252

We believe that the definition of "forest biomass waste" should be broadened to include material from wildfire mitigation, fuel removal and forest restoration activities, recognizing that in many cases this material, whose removal helps combat wildfire and associated GHG emissions, may include some larger "merchantable" sized material. Please consider that in situations where only a small portion of material is merchantable, it is more efficient to treat all the material as biomass waste rather than separate out the merchantable portion. That cost/benefit is a decision best made on a case-by-case, site-specific basis by those doing the work, rather than by a rule that applies across the board.

As such, we recommend that the definition be amended as follows:

*"Forest Biomass Waste" means <u>residues that are 1</u>) <u>removed for wildfire mitigation</u>, <u>forest restoration projects, or the protection of public safety, or 2</u>) 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."* 

## Specified Source Feedstocks and Forest Biomass Waste

In addition, the general definition of "specified source feedstock" in section 95488.8(g), and as it pertains to forest biomass waste in section 95488.8(g)(1)(A)(3) in particular, are not clear. The language appears to imply that the specific source feedstocks listed in 95488.8(g)(1)(A) would qualify for a reduced Carbon Intensity score (CI). Are they to receive a lower CI, beyond the calculated CI from their GREET models? Will the CI of non-specified sources be calculated using factors beyond their GREET models and Life Cycle Analyses?

More specifically restricting forest biomass waste specified source feedstocks to "non-industrial forestland" would limit the amount of sustainable material available for biofuels projects like ours for a number of reasons:

Industrial forestland owners are the only large landowners in the state that can
offer reliable long-term forest biomass supply agreements that provide the
needed certainty necessary for long-term investors and lenders needed to
develop low carbon biofuel projects.

- At present, there are no entities that can reliably aggregate supply from smaller nonindustrial landowners into such long-term contracts at adequate scale.
- Federal biofuel regulations restrict us to utilizing material from private landowners only. Thus blanket restrictions on the use of forest biomass from private lands prevents the establishment of needed long-term feedstock contracts.

According to the California's Legislative Analyst Office, 39% of California forests are privately owned, with 35% of that portion considered industrial forestlands.<sup>3</sup> Thus, if this requirement is adopted, over one third of private forestlands will not be allowed as a specified source feedstock. In the Redding/Anderson area the situation is even more striking, as 64.4% of private forest lands within 60 miles of Redding are considered industrial.<sup>4</sup> As a result, this prohibition could significantly restrict the amount of available qualified material in the area.

It is important to consider as well that many forest communities in California were initially founded around timber mills located in the proximity of large private landholdings (i.e. industrial timberlands) to assure access to wood for the mills. As a result, today, many of the most at-risk and under-served rural communities are surrounded by industrial forestlands whose biomass would be much less accessible under the draft definition in Section 95488.8(g)(1)(A)(3). As proposed, all forestlands, both industrial and non-industrial, would remain at a higher risk of destruction from wildfire and natural degradations such as beetle rot and unrestrained undergrowth. This is because while only industrial forestlands are excluded, doing so likely will make projects such as ours unsustainable and thus remove an important incentive/sustainability measure for performing wildfire treatments on non-industrial forestlands.

It's also important to note that 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. The Legislative Analyst Office report cited in Footnote 3 uses the terms "industrial" and "nonindustrial" to generally describe categories of forest *owners*, not forest*lands*. Thus, in addition to being imprecise, the term proposed for inclusion in Section 95488.8(g)(1)(A)(3) is potentially discriminatory. CARB should not be in the business of discriminating between which kinds of private landowners qualify for this LCFS pathway.

<sup>&</sup>lt;sup>3</sup> Taylor, Mac "Improving California's Forest and Watershed Management" California Legislative Analyst Office, April 2018. Page 5.

<sup>&</sup>lt;sup>4</sup> Based on GIS work done by an industry partner.

Furthermore, the phrase "forest stand improvements" should remain in the language, as thinning programs as part of a holistic forest management regime, are exceedingly important treatments that enhance forest health as well as reduce fire risk. Eliminating the phrase suggests that such forest management activity will not qualify. A recent review of scientific literature and related meta-analysis found "overwhelming evidence" for the efficacy of thinning programs when combined with prescribed burning or pile burning.<sup>5</sup>

As described in detail in our initial submission, we also believe that any material extracted in compliance with California Forest Practice Act should be considered eligible. The exception of "clear cuts" does not recognize that single age forest management is permitted within the California Forest Practice Rules, considered some of the most protective forest management rules in the world. We do support the proposed addition of the phrase "that was performed in compliance with all local, State, and federal rules and permits." This language makes it very clear that in California the requirements of the California Forest Practice Act and related regulations apply, and that provides sufficient protection. Excluding "clear cuts" – another term that is not defined in the LCFS Regulation and is thus ambiguous – creates potential conflicts between Section 95488.8(g)(1)(A)(3) and the California Forest Practice Act and its implementing regulations.

We respectfully request that, if the regulations are going to define a specified source feedstock for forest biomass waste, the initial definition should be for forest biomass waste from California only, and the language amended as follows:

3. Forest biomass waste from non-industrial-forestlands removed for the purpose of wildfire fuel reduction <u>or forest stand improvement</u>, 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 the California Forest Practices Act, as well as any local, and federal rules and permits.

<sup>&</sup>lt;sup>5</sup> See USFS publication: <u>https://research.fs.usda.gov//treesearch/67659</u>

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,

Robert Hambrecht

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