



To: California Air Resources Board

Thank you for the opportunity to comment on the LCFS rule making process. We recognize CARB's long-established leadership in addressing the climate crisis across a broad landscape of innovative policies such as the LCFS program and the State's Cap and Trade program, which implemented stringent forestry offset protocols now being emulated by programs outside of California. We appreciate the opportunity to contribute to the dialog, in particular regarding the forestry practices embedded in the LCFS program.

Allotrope Cellulosic Development Company (ACDC) is a California-based project development company developing a forest residues and agricultural waste derived cellulosic ethanol plant in California. In partnership with a well-regarded, established technology partner as well as other important industry partners, ACDC's plant will produce carbon negative ethanol, which is a critical piece of making Sustainable Aviation Fuel possible. Developing such plants will support many key elements of California's overall strategy to address climate change while lowering the risk of catastrophic wildfire and creating numerous related environmental benefits.

The CARB 2022 Scoping Plan for Achieving Carbon Neutrality establishes a goal of managing and treating 2.3 million acres per year of Natural Working Lands (NWL), a goal that it acknowledges is "ambitious."<sup>1</sup> Near the end of the document, the Scoping Plan addresses "considerations" that "must be addressed when implementing" the plan, one of which is that achieving the ambitious goal of treating 2.3 million acres of NWL will require "significant changes" in forest management.<sup>2</sup> Scoping Plan strategies to scale forest management include expanding biomass processing infrastructure and streamlining permitting in collaboration with State and local agencies.<sup>3</sup> As a project developer working to build a commercial scale cellulosic ethanol plant in Northern California utilizing forest biomass, we contribute to carbon neutrality while improving forest management and expanding biomass processing infrastructure.

Forestry residues from harvests and fire management activities are materials that, at present, are typically left in the woods post-harvest, resulting in heightened fire risk and, ultimately, in emissions/pollution, be it from wildfire, open pile burning or via decomposition. Alternatively, removing this material and utilizing it to manufacture carbon negative cellulosic ethanol meaningfully contributes to combating climate change, while also resulting in improvements in air quality and a reduction in particulate matter, due to the elimination of open pile burning, or wildfires in the worst-case scenario.<sup>4</sup>

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<sup>1</sup> California Air Resource Board - 2022 Scoping Plan for Achieving Carbon Neutrality, November 16, 2022 (the Scoping Plan) at pp. 98 & 99.

<sup>2</sup> Scoping Plan at p. 262 ("Increasing forest management to the degree included in the Scoping Plan Scenario will require significant changes to wood-processing infrastructure, workforce capacity, permitting processes, technical assistance, and other operational constraints.")

<sup>3</sup> Scoping Plan at p. 252.

<sup>4</sup> See Springsteen, Christofk, Eubanks, Mason, Clavin and Storey, "Emissions reductions from woody biomass waste for energy as an alternative to open burning."

[https://www.hcd.ca.gov/community-development/disaster-recovery-programs/ndrc-attachment-f/docs/aw\\_article\\_pcapcd\\_20120321.pdf](https://www.hcd.ca.gov/community-development/disaster-recovery-programs/ndrc-attachment-f/docs/aw_article_pcapcd_20120321.pdf)



Cellulosic biofuel projects using forest and agricultural waste biomass offer a variety of benefits to the California communities where they are located, including significant direct employment opportunities<sup>5</sup> and indirect job creation as the biomass supply chain needed to support the ethanol plant grows to meet increased biomass demand. Our first plant requires 300,000 metric tons of forest residue annually, which will support an estimated 25,000 acres of annual forest treatments, advancing sustainable forest management activity at scale and increasing the carbon stock of those forests while reducing the risk of catastrophic fire. Our project supports the long-term growth of forest carbon stocks and also improves the overall water supply. Furthermore, the resulting biofuel produced will have a negative carbon intensity, will displace fossil fuels and will support the long term decarbonization of the State's economy. This project is fully aligned with CARB's approach to Natural and Working Lands that "holistically fosters ecosystem health, resilience, provision of overall climate function, and other co-benefits."<sup>6</sup>

The key operational challenge as a biofuel developer in California is securing a long-term supply of state LCFS and federal Renewable Fuel Standard (RFS) qualified forest biomass. Existing federal rules preclude the use of federal forest biomass and thus require that we source forest biomass from private or State forests only. To that end, we are concerned with the language in the proposed LCFS amendments that makes forest residue biomass derived from private land clearcuts ineligible. If approved, this would result in the elimination of an important, immediately available feedstock that is presently left in the woods, eliminating a critical long-term supply source required to advance renewable fuels projects that also advance broader CARB goals.

Our long-term aim is to add residue from emerging forest management activities to the existing residues, further increasing sustainable long-term biomass contracts for expansion and additional facilities. We are eager to see sustainable solutions that allow for the long-term utilization of additional material and we urge CARB (and other state entities) to support continued funding for CalFrame and to support proposed avoided emissions credit programs to help create the appropriate economic structures that support more forest management work and additional residue utilization. We also see opportunity to work with federal authorities to lift the ban on biomass from federal lands. While such longer-term forest management enhancements are developed, we believe that working with existing operations to use waste streams presently left in the woods provides significant value to the forest ecosystem and supports the transition to broader forest management activities.

It's important to note that in California clearcutting is tightly restricted by State regulations in the California Forest Practice Rules, which are set forth in Title 14 of the California Code of Regulations (CCR) at Chapters 4, 4.5 & 10. Specifically, 14 CCR Section 921.3(c) establishes narrow circumstances under which clearcutting may be employed, as well as detailed rules regarding the extent and manner in which it may be used. And it can only "be used when

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<sup>5</sup> Each ACDC plant will generate over 500 temporary jobs during construction and fifty well-paid permanent jobs.

<sup>6</sup> Scoping Plan at p. 243.



justified and explained in the plan and found in conformance by the Director” with the requirements of the rule.<sup>7</sup> Given the tightly regulated permitting of clearcutting, there is no chance that allowing the forest residual materials that remain after a clearcut to be utilized as biomass feedstock will create any incentive for additional clearcutting. Instead, it will deliver the many environmental and climate benefits noted above, and thereby improve the overall environmental impact of the limited usage of clearcutting that is allowed today in the State.

We therefore propose that the language in § 95488.8. Fuel Pathway Application Requirements Applying to All Classifications. section (g) Specified Source Feedstocks (1) (A) subsection 3 be amended to read as follows:

*“~~Small diameter, non-merchantable~~ Any forestry residues **and byproducts** removed as part of a forest fire fuel reduction, ~~last~~ stand improvement or slash/tops from a treatment **(including harvests)** ~~where no clear cutting occurred~~; **from forest lands that meet applicable federal, state or local regulations**; Municipal solid waste that is diverted from landfill disposal;”*

We respectfully submit that in California any residue from pre-2008 plantations<sup>8</sup> that meets the current California Forest Practice Rules requirements should be eligible for the LCFS program. We note that CARB took a similar approach when it aligned the 2015 Compliance Offset Protocol for U.S. Forest Projects with the requirements of the California Forest Practice Rules.<sup>9</sup> California’s Forest Practice Act regulations are the most stringent in the United States<sup>10</sup> and set a standard that assures sustainability, a long term increase in the carbon balance of forests and assures that these forests will not be converted to plantations for energy crops as there are minimum stand age and minimum diameter requirements in place. While other jurisdictions may not be as stringent as California, by aligning its climate and forest management regulations it will strengthen the State’s leadership role in both areas.<sup>11</sup>

As we seek long term feedstock agreements with forest landowners in the region, we recognize that, while all landowners in California adhere to California Forest Practice Act (CFPA) standards, their forest management practices do vary in practice. When analyzed at a landscape scale, over the longer time frames appropriate for forest and carbon management, CFPA standards assure a growing carbon stock in these regions as well as a healthier and more fire resilient ecosystem. As such, we respectfully submit that the focus should be on landscape scale improvements to forestlands and that compliant clear-cutting practices on individual small

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<sup>7</sup> 14 CCR Section 921.3(c)(1).

<sup>8</sup> We believe the definition of pre-existing plantation proposed in Section 95488.9 is appropriate as it is largely consistent with federal definitions used for eligibility requirements for federal RINs.

<sup>9</sup> See Section 5.2.1(e)(1)(D) regarding forest projects in California.

<sup>10</sup> See Goldstein, Crandall and Kelly, “The cost of doing business”: Private rights, public resources, resulting diversity of state-level forestry policies in the U.S. Table 1 demonstrates, for instance, that California is the only state that requires licensing for foresters and timber harvest plans/permits before harvest as well as notification requirements before harvest.

<sup>11</sup> Another option would be to do as CARB did in the 2015 Forest Offset Protocol and carve out a specific set of rules for California. Compare Section 5.2.1(e)(1) with Section 5.2.1(e)(1)(D).



stands of pre-existing plantations should be seen within that larger context and not result in the elimination of an important source of feedstock for the biofuels industry in California.

Sincerely,

Robert Hambrecht  
Partner  
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