

**DOCKETED**

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*Comment Received From: Nancy Young*  
*Submitted On: 8/4/2022*  
*Docket Number: 22-TRAN-01*

**Alder Fuels Comments 22TRAN01-Forestry Residues for  
Transportation Fuels**

Please see the attached comment letter.

*Additional submitted attachment is included below.*

# ALDER FUELS

August 4, 2022

*Submitted Electronically*  
Commissioner Patty Monahan  
California Energy Commission  
715 P Street  
Sacramento, CA 95814

**RE: Alder Fuels Comments on Zero- and Near-Zero Carbon Fuel Production and Supply Funding Concepts – Docket Number 22-TRAN-01, TN # 243123**

Dear Commissioner Monahan:

Alder Fuels appreciates the opportunity to comment on the California Energy Commission's (CEC's) draft funding concepts for allocating funding for zero- and near-zero carbon fuel production and supply projects. As detailed below, Alder is well poised to meet the aims of the State's Clean Transportation Program using woody biomass waste for the development of low-carbon transportation fuels. Further, we strongly support the "Concept 1" proposal presented in the CEC's July 14 Pre-Solicitation Workshop, in support of projects that can reach commercial scale production with a forest waste emphasis. By appropriately embracing forest residuals biomass as a bountiful, sustainable, and beneficial feedstock, the CEC can help to meet the State's overall climate goals and those within the Clean Transportation Program, while addressing the wildfire crisis in the State and creating rural jobs and economic development.

## **Background on Alder Fuels**

By way of background, Alder Fuels converts natural, sustainable biomass, including forest residuals, agricultural residues, and regenerative grasses, into a low-carbon to carbon-negative "green" biocrude oil (hereinafter "greencrude") that can be used to produce drop-in sustainable aviation fuel (SAF), diesel, and naphtha at existing refineries using their current equipment and infrastructure. Our team has a proven record for development and commercial deployment of novel technology, including having founded AltAir Fuels, which developed the world's first refinery designed to produce SAF and military-grade fuels. That facility, in Paramount, California, has maintained continuous production since 2016. In 2020, after the successful transfer of operations of the Paramount facility to World Energy, the AltAir leadership team founded Alder Fuels.

Currently, we are engaging with various California State agencies and departments to realize synergies between the State's forest management and wildfire prevention activities<sup>1</sup> and the use of woody waste biomass for low-carbon transportation fuels, including SAF.<sup>2</sup> While electrification of commercial aircraft is decades away, SAF can meaningfully reduce aviation sector emissions right now and help California achieve its climate goals. SAF reduces greenhouse gas emissions by up to 80 percent, and Alder Fuels is working on processes that make our greencrude carbon negative, enabling extremely low-carbon and carbon-negative SAF. SAF also greatly reduces

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<sup>1</sup> For example, the California Natural Resources Agency, California Department of Forestry and Fire Protection (CalFire), and California Board of Forestry and Fire Protection.

<sup>2</sup> For example, the Governor's Office of Business and Economic Development (GO-Biz), California Environmental Protection Agency, and California Air Resources Board (CARB).

emissions that impact local air quality, reducing sulfur oxides (SOx) from jet fuel combustion by nearly 100 percent and particulate matter (PM) by approximately 50 percent, reductions that are especially impactful in communities around airports.

### **Comments on Funding Concepts**

Turning to the funding concepts presented in the CEC's July 14 Pre-Solicitation Workshop, Alder Fuels strongly supports Concept 1, "Commercial-scale fuel production with a forest waste emphasis." The recent White Paper, "Turning Wildfire Tinder into Low Carbon Fuels,"<sup>3</sup> issued under the Low Carbon Fuels Coalition, details the tremendous wildfire prevention and climate benefit achieved through the use of forest residuals to produce greencrude, SAF and other low-carbon liquid transportation fuels. This White Paper, which was based on the California Joint Institute for Wood Products Innovation's 50-member working group assessment on "Advancing Collaborative Action on Forest Biofuels," explains that "the production of transportation fuels is the highest and best use of woody biomass because this feedstock is abundant and reliable, advanced technologies drastically reduce criteria pollutants and greenhouse gas (GHG) emissions relative to fossil fuel refining, and transportation is the hardest economic sector to decarbonize."

While California leads the nation in decarbonizing its transportation fuels, this has been achieved primarily through the importation of liquid fuels from other states and countries, with California currently importing over 90% of its low carbon liquid fuels.<sup>4</sup> In dramatic contrast to other feedstocks suitable for producing low carbon liquid fuels, California currently possesses forest woody biomass in overabundance. Indeed, California's forest health management and forest fire fuels reductions are projected to produce close to 24 million bone dry tons of biomass waste per year as the California State and Federal governments reach their goal of treating one million acres annually. Without significant commercial alternative uses for that waste, the State would be forced to leave tons of the material in piles that will eventually burn or decay, posing other risks and releasing carbon and particulate matter emissions into the air.

### **Economic Impact Emphasis for Local Communities**

As the CEC recognized in putting Concept 1 forward for consideration (and as noted on Slide 16 from the CEC's July 14 Pre-Solicitation Workshop Presentation), using forest residuals as feedstock can bring substantial GHG emissions reduction and support the State's wildfire goals. The CEC also recognized that "unlock[ing] waste-based woody biomass" would provide "one of the largest sustainable feedstocks for fuels and energy," while also creating jobs and positive economic impact, particularly in disadvantaged communities.<sup>5</sup> Alder Fuel's technology and facilities will deliver those positive outcomes, as we site relatively small-footprint pyrolysis units in the vicinity of forest treatment activity, upgrading pyrolysis oil from forest residuals into

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<sup>3</sup> Turning Wildfire Tinder into Low Carbon Fuels:

[https://static1.squarespace.com/static/586eba3b15d5db8b6432c77d/t/6266e5d2c2744b357a4aaa72/1650910726895/Turning+Wildfire+Tinder+Into+Low+Carbon+Fuels\\_White+paper+for+Policymakers.pdf](https://static1.squarespace.com/static/586eba3b15d5db8b6432c77d/t/6266e5d2c2744b357a4aaa72/1650910726895/Turning+Wildfire+Tinder+Into+Low+Carbon+Fuels_White+paper+for+Policymakers.pdf).

<sup>4</sup> California Air Resources, Board, Low Carbon Fuel Standard (LCFS) Data Dashboard, Figure 10, at <https://ww2.arb.ca.gov/resources/documents/lcfs-data-dashboard>.

<sup>5</sup> CEC Pre-Solicitation Workshop Presentation, Slides 17-18.

energy-dense greencrude, thereby supporting sustainable forest management and jobs in the communities where the feedstock and the attendant wildfire risks are located.

### **Focus on Forest Residues**

The CEC has put forth two options for consideration under Concept 1: (a) forest waste as a separate category in a solicitation; and (b) release a solicitation that focuses fully on forest waste. Given the opportunity posed by using forest residuals as feedstock for low-carbon liquid transportation fuels, Alder urges the CEC to issue a solicitation that squarely focuses on the use of such residuals, rather than making it an ancillary aspect of a solicitation with another primary focus. Alder also urges the CEC to frame its forest residuals solicitation relative to facility sizes and locations that can efficiently use woody waste from forest treatments without undue negative environmental impacts on surrounding communities. Trucking non-energy-dense woody waste significant distances for processing can increase emissions and other environmental impacts attendant to mobilizing the feedstock. Instead, Alder plans to size greencrude facilities relative to the projected output of residuals from sustainable forest management and wildfire prevention activities within local communities, thereby minimizing environmental impacts and bringing economic opportunity to those communities.

### **Aligning with Sustainable Aviation Fuel Goals**

Alder Fuels also urges the CEC to include within its solicitation a requirement that the woody waste project include the technical capability of generating SAF, with a demonstrated commercial opportunity for that SAF. As noted above, SAF is the key solution to meaningful reduction of aviation sector emissions to help California achieve its climate goals. Further, including a SAF predicate in the solicitation would be consistent with Governor Newsom's directive for the State to adopt policies in support of such fuels for aviation.<sup>6</sup>

### **Soliciting Projects with a Focus on Policy Alignment Needs Across Agencies**

As the CEC noted in the Pre-Solicitation Workshop, previous low-carbon fuel production solicitations have included projects at early stage or lab scale, demonstration or pilot scale, community scale, and commercial scale. Alder urges the CEC to consider aiming the solicitation at demonstration or pilot scale projects that include explanations of how such a project would support future commercial-scale operations. As the Joint Institute for Wood Products Innovation pointed out in its seminal report, "Advancing Collaborative Action on Forest Biofuels in California," there is tremendous potential for using woody waste to produce low-carbon transportation fuels, but the State's policies have not yet been aligned to support that. Among other things, the Joint Institute noted that CARB needs to update its biomass feedstock calculator in its models to include emissions savings from mobilizing in-state woody wastes relative to the counterfactual fate of these feedstocks. To realize synergies with the State's Low Carbon Fuel Standard (LCFS) program, CARB also will have to assess and add pathways within the LCFS for woody waste-based liquid transportation fuels. Supportive funding from the Clean Transportation Program for demonstration or pilot scale projects could provide the data and collaborative support needed to help CARB bolster policy alignment. Moreover, given the relatively low levels of funding projected to be available under the Program, support for demonstration or pilot scale projects would bring significant "bang for the buck."

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<sup>6</sup> See Letter from Governor Newsom to Liane Randolph, Chair of CARB (July 22, 2022).

**Conclusion**

California's clean energy future can be expedited by harnessing existing policy frameworks efficiently and scalably. This will allow conversion of woody biomass waste into clean transportation fuels, which, in turn, can directly displace substantial quantities of fossil fuels in some of the hardest to decarbonize sectors. Directing the upcoming solicitations under the State's Clean Transportation Program on conversion of woody waste into such fuels will not only support decarbonization but will also help address the wildfire crisis. Alder Fuels stands ready to support the State in this important endeavor.

Thank you for your consideration.

Sincerely yours,

A handwritten signature in black ink that reads "Nancy N. Young" followed by a checkmark.

Nancy N. Young  
Chief Sustainability Officer