

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

RE: Comment on Draft Amendments to the Low Carbon Fuel Standard (LCFS) Regulation

Dear Chair Randolph,

On behalf of the Low Carbon Fuel Coalition Working Group on Biomass, we appreciate the opportunity to provide comments on the Draft Amendments to the LCFS Regulation. Our working group supports the overall objectives of the LCFS program and would like to express our specific recommendations for enhancing the inclusion of biomass feedstocks in the regulation.

Expanding Forestry Waste Feedstocks for Emission Reductions:

We strongly support the inclusion of additional waste feedstocks (§95488.8.g), specifically focusing on forest residues removed for forest fire fuel reduction or forest stand improvement as included in §95488.8.g:

- (1) *Pathways Utilizing a Specified Source Feedstock. In order to be eligible for a reduced CI that reflects the lower emissions or credit associated with the use of a waste, residue, by-product or similar material as feedstock in a fuel pathway, fuel pathway applicants must meet the following requirements.*
 - a. *Specified Source feedstocks include:*
 3. *Small -diameter, non-merchantable forestry residues removed for the purpose of forest fire fuel reduction or forest stand improvement and from a treatment where no-clear cutting occurred; Municipal solid waste that is diverted from landfill disposal;*

While the proposed regulation includes some forestry residues, we propose expanding this section to encompass all materials generated from essential forest management practices to adequately respond to the urgency of California's wildfire crisis, the resulting threat to human life, and the massive GHG and criteria pollutant emissions from wildfires and open burning. California's 2021 Wildfire and Forest Resilience Action Plan underscores the critical need to dramatically expand intensive forest management to mitigate wildfire risks¹. The plan emphasizes the role of large-scale thinning and other management activities in reducing long-term greenhouse gas (GHG) emissions and air pollution associated with catastrophic wildfires. This aligns with the ambitious goal of managing 2.3 million acres of Natural Working Lands (NWL) set by the CARB 2022 Scoping Plan². Utilizing residues from these activities as biomass feedstocks not only supports wildfire prevention but also offers a lower-emission alternative to traditional fuels. However, the ambiguous language in the proposed regulation will inhibit or preclude biomass utilization.

The current language presents three challenges:

¹ California's Wildfire and Forest Resilience Action Plan. California Wildfire Task Force. April 2022. Retrieved from <https://wildfiretaskforce.org/wp-content/uploads/2022/04/californiawildfireandforestresilienceactionplan.pdf>

² California Air Resource Board - 2022 Scoping Plan for Achieving Carbon Neutrality, November 16, 2022

- **Ambiguity:** Vague terms like "small-diameter, non-merchantable" hinder feedstock evaluation and create uncertainty for developers.
- **Inconsistency:** Lack of alignment with established federal and international standards (RFS, RSB) represent a challenge for securing eligible feedstocks under multiple regulatory frameworks.
- **Rigidity:** Failure to recognize that California is experiencing a wildfire crisis that the State and Federal Governments have recognized requires massive fuel reduction activities that will result in increasing quantities of forest biomass that must be open burned if the material cannot be utilized in a beneficial manner.

For example of this ambiguity and inconsistency, please see the table below:

Standard	Thinnings description	Definition/Questions
Proposed California language	Small -diameter, non-merchantable forestry residues	How will "non-merchantable" be interpreted since thinnings can generally be sold albeit at a much lower value than saw timber.
RFS	Pre-commercial thinnings	Pre-commercial thinnings are trees, including unhealthy or diseased trees, removed to reduce stocking to concentrate growth on more desirable, healthy trees, or vegetative material that is removed to promote tree growth.
RSB	Early/non-commercial thinnings	Thinnings performed for silvicultural or ecological reasons; including pre-commercial thinnings (i.e., thinnings of trees with a typical breast height diameter (DBH) below 10 inches.)

To address the challenges and encourage necessary biomass utilization in California we propose:

1. **Expand eligible feedstocks:** Include all forestry residues from forest management practices approved by the authorized tribal, federal, state or local agency.
2. **Adopt clear, consistent definitions:** Align with established standards for terms like "thinnings" and "residues" where possible, while still allowing flexibility for site specific forest management practices.
3. **Stakeholder Engagement:** Gather input from diverse groups to refine definitions and implementation procedures that will maximize forest health.

Additional Considerations:

- **Clearcut materials:** We propose revising the total exclusion of clearcut-derived biomass wastes and residues. Tightly regulated clearcutting practices ensure sustainability³, and utilizing these residues offers environmental benefits without encouraging further clearcutting. Furthermore, the rationale for this exclusion has not been supported by stakeholder interaction at CARB workshops.

³ California Forest Practice Rules in Title 14 of the California Code of Regulations (CCR) Section 921.3(c)(1)

- **Pre-2008 plantations:** Similar to the 2015 Compliance Offset Protocol, consider including materials from pre-2008 plantations meeting California's Forest Practice Rules⁴.

Inclusion of Agricultural Residues Under Waste Definition:

We strongly support the proposed inclusion of additional waste biomass under §95488.8.g. Additionally, we urge for the explicit definition and inclusion of agricultural residues such as crop residues including corn stover, wheat straw, sugarcane trash and bagasse, orchard prunings, and vineyard prunings, and orchard trees.

CARB's website acknowledges the current practice of burning these residues, which contributes to GHG emissions and air pollution⁵. Burning leads to GHG emissions and air pollution. By utilizing these materials as fuel feedstocks, we can convert waste into a valuable resource while reducing emissions.

Therefore, we recommend explicitly defining agricultural residues as eligible waste feedstocks within the LCFS program. This clarity will facilitate their incorporation and promote investments in diverse fuel types.

Inclusion of Lumber Mill Residue Under Waste Definition:

We strongly urge CARB to support the inclusion of lumber mill waste as a waste feedstock. This prevents landfilling and aligns with the broader environmental goals of the LCFS program.

Attestation Requirements for Waste Feedstocks:

We appreciate the importance of maintaining a rigorous chain of custody for all waste feedstocks and support the amended text under §95488.8.g.D regarding supplier attestation letters:

Requirements for Feedstock Attestation Letter. Each specified source feedstock supply chain entity must maintain a specified source feedstock supplier attestation letter. Supply chain entities supplying biogas or biomethane used as a feedstock must follow the requirements under section 95488.8(i)(2). The specified source feedstock supply chain entities include points of origin, collectors, aggregators, traders, distributors, and storage facilities that participate in the supply chain from point of origin to the fuel producer for specified source feedstocks. The attestation letter must attest to the veracity of the information supplied, declare that the information accurately represents the specified source feedstock(s), and conform to the requirements of this subsection. The specified source feedstock attestation letter must make the following specific attestations:

However, we seek clarity and flexibility on the specific definitions introduced in this requirement. For example, regarding traceability to "point-of-origin", we suggest clarifying the language to define the point-of-origin for biomass wastes as the location where the waste or the residue was generated. In this case, forestry residues would be traced to the specific timber stand, and lumbermill waste to the lumbermill. Bills of lading, already used for chain of custody purposes, should be an acceptable verification method.

⁴ Section 5.2.1(e)(1)(D)

⁵ <https://ww2.arb.ca.gov/our-work/programs/agricultural-burning>

We recognize potential challenges in applying these requirements to certain feedstocks, like sawdust, where tracing the origin throughout the entire supply chain might be impractical or infeasible. Therefore, we urge CARB to consider a more flexible approach for such specific cases. This flexibility could involve:

- Alternative verification methods: Accepting alternative forms of documentation or verification mechanisms suitable for the specific feedstock type.
- Focus on key points: Prioritizing attestation requirements on critical stages of the supply chain, such as initial collection and final delivery, rather than demanding origin details for every intermediary step.
- Tiered approach: Implementing a tiered system where the level of detail required in the attestation letter varies depending on the feedstock type and potential risks associated with its origin.

By adopting a more nuanced approach, we can ensure the integrity of the program while also fostering the utilization of diverse and potentially important waste feedstocks.

Sustainability Requirements:

We acknowledge the importance of establishing sustainability requirements for crop-based and forestry-based feedstocks under §95488.9.g to safeguard environmental integrity within the LCFS program:

(g) Crop-based and forestry-based feedstocks must not be sourced on land that was forested after January 1, 2008. A forest is as defined in section 95481 or where they are protected by international or national law or by the relevant competent authority for nature protection purposes.

All crop-based and forestry-based feedstocks used for LCFS fuel pathways must meet the following sustainability requirement:

- (1) *Maintain continuous third-party sustainability certification under an Executive Officer approved certification system.*
 - (A) *All feedstocks at the point-of-origin must be certified by January 1, 2028. Fuel quantities reported under fuel pathways utilizing feedstocks not certified by January 1, 2028 must be assigned the ULSD carbon intensity found in Table 7-1 of the LCFS regulation.*
 - (B) *The Executive Officer will review and may approve certification systems based on the following criteria:*

However, we raise concerns regarding the potential impact of mandatory third-party certification on forestry residues essential for wildfire prevention, particularly those originating from unmanaged lands.

While we agree with the principle of ensuring sustainable sourcing, applying a uniform certification requirement might pose undue challenges for wildfire abatement efforts. Unlike residues from managed forests, those obtained from unmanaged lands often lack established management practices and readily available certification pathways. The prohibitive expense of acquiring individual certifications for each

instance of wildfire fuel reduction could hinder critical activities essential for forest health and wildfire abatement.

Therefore, we urge CARB to consider a nuanced approach that acknowledges the unique circumstances surrounding wildfire abatement residues.

Inclusion of Biomass as a Process Fuel:

We advocate for the inclusion of biomass as a process fuel within the LCFS program, recognizing its potential to contribute to GHG emission reductions and energy diversification.

The omission of biomass derived process fuels creates several missed opportunities for utilizing biomass and decarbonizing California's transportation sector. Biomass can be a valuable source of process heat, power, and combined heat and power (CHP) in facilities like:

- Biomass gasification plants
- Corn ethanol facilities with CHP (utilizing corn stover or other biomass)
- Facilities requiring low-carbon intensity (CI) power

As a practical example, the current Tier 1 calculators for the sugarcane ethanol pathway only consider "externally sourced biomass," excluding the use of biomass within the production process itself. This narrow definition fails to capture the full potential for emission reductions and sustainable biomass utilization.

Therefore, we recommend explicitly including biomass process fuels within the LCFS program, and updating the proposed tier 1 calculators to include both internally and externally sourced biomass.

Urgency for Clear Biogenic Carbon Accounting Guidance for Biomass Feedstocks:

The proposed LCFS regulation lacks crucial details regarding how the carbon intensity (CI) of biomass feedstocks will be determined. This omission presents a significant hurdle for developers of biomass-to-fuel pathways.

Biogenic carbon accounting plays a vital role in calculating the overall CI of a pathway, which will ultimately determine a project's economic viability.

We urge CARB to urgently provide comprehensive guidance on biogenic carbon accounting for all biomass feedstocks within the LCFS program. Ideally, this guidance should:

- Establish categories of biomass: By establishing clear categories for biomass types, considering factors such as their origin, properties, and potential uses, CARB can streamline the process of biogenic accounting. For instance, forestry residues and agricultural wastes represent major biomass categories that can be further refined based on geographical sources and potential alternative fates. Categories of biomass should include thinnings and slash, wildfire risk removal material, agricultural residues, urban wood waste, and purpose grown biomass.

- Align with established federal policies: Harmonizing with existing biogenic carbon accounting frameworks under programs like the RFS, where GREET serves as the accepted modeling tool and biogenic carbon is treated as carbon neutral, would streamline processes and promote clarity for developers.
- Acknowledge wildfire abatement contributions: Recognize the unique context of forestry materials sourced for wildfire abatement. Thinning and utilizing these materials can significantly reduce uncontrolled wildfire emissions, leading to orders of magnitude greater CO₂ savings compared to the biogenic carbon sequestered in the feedstock itself due to the avoidance of collateral damage from catastrophic wildfires. A nuanced approach that factors in this mitigation potential is crucial.
- Offer flexible and practical pathways: Allow for flexibility for accommodate diverse feedstock types and projects.

Clear guidance will attract investment to biomass-to-fuel projects, accelerating California's transition to a lower carbon intensity transportation sector.

The Low Carbon Fuel Coalition Working Group on Biomass is committed to working collaboratively with CARB to refine and implement these recommendations. We look forward to discussing these recommendations with you further and working together to strengthen the LCFS program.

Sincerely,

ROBIN VERCRUSE
Executive Director
LOW CARBON FUELS COALITION

OSCAR GARCIA
Regulatory Affairs Manager
NESTE

STEFAN UNNASCH
Managing Director
LIFE CYCLE ASSOCIATES

DAN SHAPIRO
CEO
FIDELIS NEW ENERGY, LLC

MICHAEL C. DARCY
Chairman & CEO
DG FUELS, LLC

CHRISTOPHER EFIRD
Chairperson and CEO
NXTCLEAN FUELS, INC.

JEFF MCDANIEL
VP New Projects
VELOCYS