



August 11, 2016

Jim Aguila, Branch Chief, Program Planning and Management  
Samuel Wade, Branch Chief, Transportation Fuels  
Air Resources Board  
1001 I Street  
Sacramento, CA 95814

(Comment submitted via email to [LCFSWorkshop@arb.ca.gov](mailto:LCFSWorkshop@arb.ca.gov) )

RE: Proposal to Enable LCFS Credit Generation from Biomass Electricity

Dear Mr. Aguila and Mr. Wade:

DriveGreen LLC (“DriveGreen”) appreciates the opportunity to provide comments regarding the draft Low Carbon Fuel Standard (“LCFS”) regulations developed by the Air Resources Board (“ARB”), pertaining to monitoring, verification and other issues (“Draft LCFS Regulation”). Consistent with our prior discussions, this email provides additional detail regarding our recommendation that ARB make minor revisions to the Draft LCFS Regulation to enable LCFS credit generation from biomass power used in transportation applications to reduce wildfire risk and to achieve other policy goals.

DriveGreen is a Portland, Maine based company that is a pioneer in enabling the use of very low carbon intensity (“CI”) biomass-based fuels in transportation. DriveGreen has established a fuel pathway for biomethane fleets to generate Renewable Identification Numbers (“RINs”) under the federal Renewable Fuel Standard (“RFS”). The company is currently working with the U.S. Environmental Protection Agency (“EPA”) to establish an RFS pathway for biomass facilities to generate RINs based on the amount of renewable biomass power supplied to EVs in the form of environmental attributes.

Overall, DriveGreen is highly supportive of the Draft LCFS Regulation, and of the LCFS program. The LCFS and RFS have proven to be effective market-based programs that have driven the rapid development and expanded supply of low carbon fuels in the US and California. The objectives of this proposal (“Proposal”) are to harmonize the LCFS and RFS regarding EV credit generation, to better utilize California’s existing biomass power generation facilities, and to reduce the presence of dead and dying biomass that currently serves as tinder for wildfires.



## Overview of Proposal

Under the current LCFS Regulation and the Draft LCFS Regulation, LCFS credits may be generated based on the power utilized by EV's subject to specific requirements. These requirements vary depending on the type of EV that is being utilized, and how the vehicle is charged. The regulations distinguish eight categories of EV's and establish distinct requirements for each of these categories:

1. EV charging in a single- or multi-family residence ("Residential");
2. EV charging through public access EV stations;
3. EV charging of fleets;
4. EV charging via the use of a battery switch station;
5. EV charging via private access EV stations at a business or workplace;
6. Fixed guideway transit systems that utilize electricity for propulsion ("Fixed Guideway");
7. Electric forklifts; and,
8. On road electricity used as transportation fuel that does not fit into first seven categories.

This Proposal is intended to expand LCFS credit generation in two of the eight categories: Residential Charging and Fixed Guideway. For these two categories, the Proposal would enable opt-in participants to voluntarily lower the CI of the electricity utilized to power their vehicles by switching to very low CI biomass power. The switch to very low CI biomass power would decrease the amount of greenhouse gas pollutants ("GHG's") emitted and correspondingly would increase the number of LCFS credits generated as measured in metric tons ("MT").

The Proposal has been crafted narrowly with oversight safeguards, and drafted consistently with the overall LCFS program structure. If implemented, the Proposal will deliver maximum benefits by increasing GHG reductions in transportation while improving the transparency and integrity of LCFS credits in the EV sector.

Under the Proposal, existing LCFS mechanisms are utilized to achieve the policy goals in the two EV categories. Qualifying facilities that generate power from biomass would apply for an LCFS pathway via the conventional LCFS process and would receive a CI score for the specific facility. Once a facility has an approved pathway with a CI score for its power, the facility would be eligible to supply the environmental attributes of its power to a qualifying EV user in the Residential or Fixed Guideway category. The Proposal would preclude the sale or use of the environmental attributes for non-transportation purposes, and credit generators would be subject to heightened monitoring and verification requirements.



Recognizing the distinct nature of the two categories and in keeping with ARB's overall program structure, the Proposal imposes different requirements on the Residential and Fixed Guideway categories.

1. For Residential, the Electrical Distribution Utility ("Utility") would retain all rights to generate LCFS credits based on the CI of the California Grid Mix Electricity. Thus the Utility's LCFS credit generation for its residential EV customers would not be diminished. The very low CI biomass would only generate LCFS credits for the additional GHG reductions that result from the lower CI biomass power. The Electric Vehicle Service Provider ("EVSP") would be responsible for aggregating residential customers, acquiring the environmental attributes, and for monitoring and verifying the amount of power utilized by the individual EV's. This approach will deliver to ARB EV power use data that the agency currently does not receive and that the Utilities are typically unable to provide. Longer term, this visibility and control could enable California to incentivize the use of power by residential EV's at the time of day that is optimal for the stability of the state's grid.
2. For the Fixed Guideway category, the transit agency or its designee would be eligible to generate credits for the low CI biomass power used to propel the system. The credit generator would be subject to heightened monitoring and verification requirements.

The specific regulatory changes necessary to implement the Proposal are included in Attachment A in redline format. Since the regulations pertaining to monitoring and verification are subject to revision, we have not made proposed specific regulations in this regard but would anticipate that this Proposal could be integrated into the overall structure that ARB is developing. If it would be helpful for us to provide specific recommendations regarding the monitoring and verification provisions, please let us know.

#### Hazards posed to California by Excess Biomass

It is well-established that wildfires pose a severe and escalating risk to Californians from a safety, air quality, and economic perspective. A confluence of factors including a long-term drought, high rates of tree mortality, and expiring contracts in the biomass sector is causing rapid accumulation of forest residue and agricultural biomass. A copy of Governor Brown's Proclamation of a State of Emergency of October 30, 2015, pertaining to tree mortality is attached as Attachment B for reference. Despite the Governor's proclamation and the urgency of the issue,

attempts to increase utilization of biomass power facilities have thus far proven ineffective.

In a recent proceeding, ARB specifically considered the risk of wildfire caused by the excess build-up of forest residue and concluded that the LCFS should be evaluated as a policy mechanism to address this problem. During the rulemaking to establish a Short-Lived Climate Pollutant Reduction Strategy (“SLCP Strategy”), ARB determined that wildfires generate more than half of the short-lived climate pollutant black carbon in the state.<sup>1</sup> ARB made the following recommendation in its Proposed SLCP Strategy to address this threat:

***2. Recommended Actions to Reduce Wildfire Risk and Black Carbon Emissions***

*(...)*

*The recommendations below will help reduce wildfire risk by improving forest management, putting woody waste resources to beneficial use to create value from forest management activities, and supporting these efforts with research and ongoing coordination. These actions will help increase public and private investment to unlock a broad array of economic and environmental benefits in rural communities and Statewide.*

*(...)*

***Align Financial Incentives with Beneficial Use of Woody Waste***

*Current volumes of woody waste from forests and other sources, let alone increased volumes that will come from improved forest management practices, far exceed the markets and available uses for this material. By helping to develop markets for industries that can utilize this material, the State can help unlock the value intrinsic in California’s woody biomass waste streams and capture additional economic and environmental benefits associated with forest management. This will help improve the economics associated with transporting residues from the forest, providing alternatives to pile burning and reducing black carbon emissions associated with forest management. It will also help to scale investment to help sustain forest management operations at necessary levels. Accordingly, the State will take additional steps to support beneficial uses of woody waste:*

*(...)*

*· **Support clean energy and fuel production.** As described above, California has several programs in place to support clean energy and fuel production from sustainably harvested forest waste and other organic resources. Some of these programs, such as the bioenergy feed-in tariff, LCFS, and Cap-and-Trade, are relatively new programs and could support more clean projects moving forward. The State will encourage policies, strategies and*

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<sup>1</sup> Short-lived Climate Pollutant Strategy Concept Paper, May 7, 2015, [http://www.arb.ca.gov/cc/shortlived/concept\\_paper.pdf](http://www.arb.ca.gov/cc/shortlived/concept_paper.pdf) , at p. 23 (last viewed August 11, 2016).

<sup>2</sup> California Air Resources Board, Proposed Short-Lived Climate Pollutant Reduction Strategy, April 2016, at p. 53-55,



*investments, from both private and public funds, to further support clean energy and fuel production from forest biomass. (...)<sup>2</sup>*

#### Summary of Benefits

The Proposal presented here would further critical policy goals. Similar approaches have already proven successful within the LCFS and RFS programs. As a specific example, the use of environmental attributes has facilitated GHG reductions and expanded the supply of credits by enabling the use of renewable natural gas (“RNG”) in compressed natural gas (“CNG”) vehicles. While it is generally not feasible to physically deliver RNG molecules into CNG vehicles, both the LCFS and RFS authorize the use of contracts that transfer the environmental attributes of the low CI fuel to the CNG station. This policy mechanism has facilitated rapid growth in the RNG industry and incentivized the capture of methane at landfills and dairy digesters.

Similarly, this Proposal will facilitate the emission-controlled conversion of high hazard zone fuels and other biomass into power rather than perpetuating the open air burning and wildfires that lead to black carbon emissions and the degradation of California’s air quality, health and economy.

Thank you for your consideration of our input. Please contact us if any further input would be helpful. We look forward to continuing to participate in this proceeding.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Cleaves".

Robert Cleaves

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<sup>2</sup> California Air Resources Board, Proposed Short-Lived Climate Pollutant Reduction Strategy, April 2016, at p. 53-55, <http://www.arb.ca.gov/cc/shortlived/meetings/04112016/proposedstrategy.pdf> (emphasis supplied, last reviewed August 11, 2016)