



4675 MacArthur Court, Suite 800  
Newport Beach, California 92660  
Phone: 949.437.1400 Fax: 949.612.1894  
www.CleanEnergyFuels.com

Todd R. Campbell  
Vice President, Public Policy and Regulatory Affairs

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Mr. Sam Wade  
Chief, Transportations Fuels Branch  
California Air Resources Board  
1001 I Street  
Sacramento, CA 95814

**RE: Clean Energy's Comments in Response to November 6, 2017 LCFS Workshop**

Dear Mr. Wade,

Clean Energy is thankful for the opportunity to submit comments in response to the rulemaking workshop held on November 6, 2017. Clean Energy remains a committed supporter of California's Low Carbon Fuel Standard program and appreciates ARB Staff's collaboration with industry stakeholders throughout this regulatory amendment process. We are confident that through our collective efforts this amendment to the LCFS will not only strengthen the integrity of the program, but also maximize the environmental benefit across all fuel types delivered in California.

**Low Carbon Intensity RNG Pathway Certification and Buffer Account**

As we are all aware, the scope of renewable natural gas (RNG) supply is expanding. Innovation in anaerobic digestion technology has spurred significant investment in RNG production at dairy farms, wastewater treatment plants, and other waste stream digesters. RNG produced from the waste derived from these projects has proven to have a significantly low, and in many cases negative carbon intensity score. The highly negative carbon intensity score is a pivotal component of driving returns for a project owner. Digester RNG projects, especially dairies, require significant capital investment compared to a typical landfill RNG project, which underscores the importance of cash flow certainty from LCFS credits.

Clean Energy's concern is that under the current amendment proposal, digester RNG producers can potentially lose significant LCFS value to the buffer account if their pathway application for a highly negative CI is not approved in a timely manner. Without an approved pathway, the digester producer will have to apply for and generate credits using a temporary fuel pathway code (TFPC). Clean Energy appreciates the addition of TFPCs for digester projects (0 g/MJ for Dairies/Green waste and 35 g/MJ for Wastewater) however, the likely delta between the actual CI for one of these projects and the TFPC will be significant. For example, the most recent dairy application had a CI of -254 g/MJ which translates to an additional 0.25 credits per MMBtu of production relative to the 0 g/MJ TFPC. At current market pricing and typical project size, this can yield millions of dollars of lost revenue and LCFS value to the buffer account in just the first quarter of operation.

We understand that ARB staff has committed to faster application approval timeframes but as stated before, cash flow certainty is pivotal especially in the starting months of production for these capital intensive projects. We ask that ARB build flexibility into an LCFS retroactivity provision to allow pathway applicants to recognize the full LCFS benefit of their actual certified CI from the first date of production and inclusion in the LCFS program. This methodology serves to

reward carbon negative RNG projects by incentivizing timely and accurate application submittals while mitigating any cash flow risk for the producer in the event of an administrative delay at ARB.

### **Annual CI Verification Proposal**

Clean Energy views the verification proposal as a vital addition to the LCFS program, but the annual CI verification requirement is redundant given the fact that a pathway applicant must supply two years of operating data in order to obtain a certified CI. The verification requirement should fall within the same parameters as pathway certification in order to maintain consistency in the program. Specifically, the pathway verification should occur every two years, rather than annually. Disconnecting the verification period from the period used to establish the certified CI value can lead to false determinations that the facility is operating significantly differently than the certified pathway basis. An annual CI verification provision assumes that one year of operating data is reflective of “normal” operating conditions at a facility. This is not the case. Production facilities can experience periods of planned or unplanned maintenance that can affect the annual CI score, but are otherwise captured in the two-year data used to certify the pathway. In fact the only case in which the operating CI will deviate materially from the certified CI is if there is a substantial change in the production process from what was original approved. The LCFS Regulation (and RFS as well) already requires a pathway applicant to notify ARB if there are any material changes in the production process that will affect the CI score.

Pushing the CI verification out to two years eliminates the risk of modeling “atypical” operating conditions while effectively creating a rolling CI re-certification process that ensures that each pathway CI reflects the most recent two years of operating data. This two year window of CI verification will also likely sync up with the timing of future GREET Model releases which requires pathway CI scores to be updated anyway.

### **Buffer Account and True Up**

Under the proposed verification program, if a producer’s operating CI is higher than the certified CI, the producer will have to forfeit or purchase the quantity of credits that were over-generated while no additional benefit is given if the operating CI is lower than the certified CI. Currently it is proposed in the most recent regulatory text that these under-generated credits would go the buffer account.

Clean Energy proposes complete true-up of credit generation as part of the CI verification every two years (as proposed above). During the two year CI verification period, the producer will submit the Fuel Pathway Report calculating the operating CI. The report will then calculate the quantity of credits that were over- or under-generated using the certified CI as opposed to the actual operating CI. At the end of the verification schedule, a positive verification statement would result in a true-up of credits, either a deposit of credits for those under-generated or a deficit of

credits for the quantity over-generated. As previously described in the draft regulatory text, an adverse verification statement would result in ARB investigation.

Allowing producers to true-up credits generated (either positively or negatively) with the certified CI and those that would have been generated using the operating CI lessens the concern of credit invalidation. A true-up incentivizes credit generators to use a more conservative certified CI to generate credits quarterly since any under-generated credits would be deposited into their account at the end of the verification schedule. This proposal would also result in removing the provision in draft regulatory text that says under-generated credits would be sent to the buffer account. Based on the workshops and rationale given by ARB, the main purpose of the buffer account is to provide a safeguard against invalidation risk overall, but mainly for the carbon capture and sequestration (CCS) projects. Clean Energy believes that CCS projects and their developers should fully bear this risk and that biofuel (including liquid and biogas) producers should be able to realize the full value of their projects.

### **CA GREET 3.0 Natural Gas Pipeline Leakage Assumption**

Argonne National Labs released GREET 2017 in October this year which identified an error in the 2016 methane emission assumptions for natural gas transmission and storage presented in the Burnham et al. 2016 study and used in CA GREET 3.0. The original Burnham et al. 2016 white paper lists natural gas transmission and storage leakage rates to be 74.6 g CH<sub>4</sub>/MMBtu in 2016. However, it is explained in the Burnham et al. 2017 study that this original 2016 rate was based on an EPA value that double counted compressor station emissions. The correct transmission and storage methane emissions rate for 2016 should be 46.7 g CH<sub>4</sub>/MMBtu. The original 74.6 g CH<sub>4</sub>/MMBtu 2016 rate was used in the CA GREET 3.0 Model (and corresponding lookup pathway CI's) and needs to be adjusted accordingly.

We would like to thank ARB staff for allowing us the opportunity to provide comments. We would like to set up a meeting between staff and our experts to discuss the various proposals we have outlined in this letter.

Sincerely,



Todd Campbell  
Vice President, Public Policy and Regulatory Affairs  
Clean Energy Fuels Corporation