



Helping dairies fuel a renewable future

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January 7, 2022

Dr. Cheryl Laskowski, Branch Chief, Transportation Fuels

California Air Resources Board (CARB)
Low Carbon Fuel Standard Program (LCFS)
1001 I Street
Sacramento, CA 95814

Dear Dr. Laskowski,

RE: CalBio Comments on Public Workshop to Discuss Potential Future Changes to the LCFS Program (December 7, 2021)

California Bioenergy LLC (CalBio) appreciates the opportunity to comment on the proposals made by CARB during the Public Workshop to Discuss Potential Future Changes to the LCFS Program on December 7, 2021. CalBio is a California developer of dairy digesters generating renewable electricity and biomethane to be used for vehicle fuel. Founded in 2006, CalBio has worked closely with dairy farmers, state agencies, utilities, and others to develop programs which help the state achieve its methane reduction goals. In addition to reducing GHGs, CalBio generates renewable natural gas that displaces use of fossil-based fuels, improves local air and water quality, and creates local job opportunities on family-owned farms.

CalBio commends CARB in the development of the LCFS program and the key role it has played in transitioning California's mix of transportation fuels to cleaner, low-carbon alternatives. CalBio appreciates CARB's leadership and looks forward to working together on the issues below and advancing the success of the program.

1. Support Credit True-up for Temporary Pathway CIs

A year ago, CARB staff suggested LCFS pathway holders can request true-up of credits using the certified CIs for fuel transactions reported using temporary fuel pathway CIs. This proposal has a number of benefits and a result we strongly support it. This is particularly true during initial months of operation when dairy digester projects must often use the temporary -150 CI. A simple solution would be to allow for credit true-ups to occur annually. This would have several benefits:

- a. Remove the pressure on CARB from developers to process LCFS applications

- b. Allow developers to receive the full and true CI without engaging in complicated storage contracts which are costly and time-consuming
- c. Smooth out R-CNG deliveries to fleets by avoiding the need to build up a large stored gas inventory and then have to require a fuel distributor to interrupt steady state operations and dispense it all at once to catch-up,
- d. Allow for more direct sales of renewable natural gas to smaller and more local fleets, who do not have the fleet size to dispense stored gas.

2. Expand Use of Book-and-Claim Until Pathway Certification (or Rejection)

An alternative, but less efficient solution to ensuring gas can be dispensed at its certified CI value would be to expand book-and-claim beyond the three-quarter limit. If a dairy biomethane pathway is submitted, CARB should allow for the book-and-claim period to be extended until such a time that the pathway is approved without risking loss of credits due to timing delays. This would be more onerous on the gas producer and less efficient than allowing credit true-ups as proposed by CARB since it will still require extensive gas storage which is becoming more challenging as more and more negative CI RNG competes for limited dispensing capacity.

3. Increase the pre-2030 CI Targets

Recently LCFS prices have been depressed due to significant participation and credit generation in the LCFS program. This presents an opportunity for CARB to set more ambitious CI reduction targets through 2030. Setting more aggressive targets will enable the deployment of even more investment of low-carbon fuel technology and help the state achieve even more GHG emission reductions in the transportation sector at a time where more action is needed than ever before on addressing climate change.

4. Update the Tier 1 GREET Model for Standard Dairy Projects

Currently there exists a Tier 1 Simplified CI Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure however it is not possible to use the Tier 1 pathway approach for any dairy digester project due to deficiencies with the model. In the case of a typical California-based Anaerobic Digestion of Dairy Manure lagoon digester project these deficiencies can be fixed with just a few minor updates. A dairy manure digester Tier I calculator that can be applied more broadly should be developed. Currently every project must be submitted as a Tier 2 pathway, which often results in delays which could be corrected by allowing for utilization of a Tier 1 pathway. CalBio would welcome the opportunity to work with CARB staff on improving the functionality of the Tier 1 Simplified CI Calculator.

5. Address Environmental Justice Issues

Latina/o/e and low-income communities in the Central Valley have been identified in a recent petition as being disproportionately negatively affected by pollution from multiple sources and the higher fuel costs imposed by the LCFS program. Anaerobic digestion of dairy manure in the Central Valley brings major benefits to these communities by reducing volatile organic compound emissions, hydrogen sulfide emissions, and odor. Dairy biomethane captured by such projects used as R-CNG fuel in newly converted natural gas vehicles reduces diesel consumption and as a result reduces dangerous PM 2.5 and PM 10 particulate emissions. Similarly, use of R-CNG to power electric vehicles reduces gasoline consumption and its

resultant particulate emissions. This in turn reduces smog producing NOX emissions. CARB should prioritize these projects which bring direct local economic, employment, and pollution reduction which directly benefits Latina/o/e and low-income communities in the Central Valley. CalBio projects also contribute directly to these communities by funding nonprofit programs and community college and university scholarships and job opportunities.

6. Proportion the Energy Efficiency Ratio of Electric Fuel to the CI of the Renewable Energy Credit

Generators of renewable electricity are currently able to retire such RECs in their AFP against electricity dispensed as fuel to EVs. Electricity from the grid has the grid's carbon intensity, approximately 70 gms CO₂e/MJ. A megawatt hour (REC) generated by a solar PV project has a zero-carbon intensity, (0 gms CO₂e/MJ). A REC generated by an engine or fuel cell fed with biogas from a dairy digester may have a CI of -700 gms CO₂e/MJ. Currently the formula for allocating LCFS credits to an electric bus operator that agrees to deploy electric buses and utilize renewable electric fuel assigns approximately 33% of the credits to grid electricity, 7% of the credits to the zero CI electricity and 60% of the credits to the -700 CI dairy electricity. This is due to the order of operations in the credit calculator that allocates the benefit of the energy efficiency ratio (EER) first and exclusively to the grid electricity. The LCFS credits should be more fairly allocated based on the CI of the renewable electricity supplied. In the example above 0% to the grid, 9% to the Solar REC and 91% to the Dairy REC.

7. Allow BioMAT Projects to Participate in LCFS

Currently utilities are required to use RECs purchased under the BioMAT for addressing the Renewable Portfolio Standard requirements, however utilities only need a zero CI REC to comply with the program. Given this, the utilities only need a portion of the attributes of the RECs from dairy projects. If a project could participate in the BioMAT and then only use the incremental attributes (zero CI to dairy CI) to generate LCFS credits, this would enable additional flexibility and encourage further clean-energy investment.

8. Temporary CIs for Electric Fuel Projects

Currently there is not a mechanism in the LCFS regulation to allow electricity generated from dairy biogas and used in electric vehicles to claim any temporary CI. A temporary CI pathway of -200 for biogas-based electricity would seem reasonable so that multiple quarters of credits are not lost if there are delays in the certification process. Otherwise, projects currently must wait until they are fully certified. Or more simply, credit true-ups should be allowed as previously proposed by CARB and described above.

9. Ensure Crediting Flexibility at Individual Facilities

It is CalBio's understanding that under the current LCFS program, a single facility is eligible to produce LCFS credits from two separate pathways (for example, an RNG pathway and an Electric EV pathway) provided the biogas is separately allocated to two separate end uses (pipeline injection and electricity generation), and it is verified that no double-counting of biogas is occurring. However, if CARB deems this as not currently eligible under the existing LCFS, the program should be modified to enable these concepts to allow for more innovative projects with flexible use of low-CI biogas.

10. Implement Pilot Financial Mechanism

CalBio supports the concept of a pilot financial mechanism that, if implemented, could improve stability and certainty around LCFS credits generated from anaerobic digestion at dairy operations. Either of the potential approaches that allows participating facilities to receive a higher degree of certainty on the LCFS credit price reduces financial risk and will increase participation. Revenue certainty helps project developers access private financing, enabling more projects to be built which are necessary to achieve the state's climate goals.

We would like to thank CARB for the opportunity to comment and we look forward to engaging further on the topics above.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew Craig". The signature is fluid and cursive, with the first name "Andrew" written in a larger, more prominent script than the last name "Craig".

Andrew Craig
Vice President, GHG Programs