

From: [Lyle Schlyer](#)
To: [ARB LCFS Workshop](#)
Subject: Feedback re Public Working Meeting on April 17, 2017 re Livestock Biomethane Pathways
Date: Monday, May 15, 2017 5:30:01 PM

Calgren Renewable Fuels and its affiliate, Calgren Dairy Fuels, are pleased to provide the following additional comments regarding the meeting on April 17th regarding livestock protocol pathways:

1. ARB staff (hereinafter "Staff") cited the Kern County Dairy Biogas Cluster operating conditions as a model for operating conditions to be used for future livestock protocol pathways. Item #6 of the Kern pathway limits the magnitude of the credit for avoided methane to the number of head of cattle permitted in 2015. We assume this is shorthand for the additionality requirements of the Livestock Protocol. If not, we urge that the additionality requirements (Cap-and-Trade regulation Section 95973(a)(2)) be used. In essence, we suggest there by only one additionality requirement and that it be applied the same under Cap-and-Trade and LCFS. Multiple additionality requirements would potentially be burdensome.
2. Staff sought comments on how to prevent loss of credits during the transition from Cap-and-Trade to LCFS credits. We recommend that estimated avoided methane emission credits be conservatively calculated based upon quarterly cattle counts by category as reflected in the Livestock Protocol (i.e. W milking cows in free stalls; X milking cows in open lots; Y dry cows; Z heifers). Upon certification of carbon credits via verification, the LCFS account of each generator that has over-estimated carbon credits should be reduced. If LCFS carbon credits claimed via avoided methane emissions are less than the quantity of livestock protocol carbon credits certified, the generator should "retire" sufficient carbon credits to cover the applicable LCFS credits but should be free to use the balance as Cap-and-Trade credits.
3. Calgren sees no problem in using a calendar year. However, we note that startup of dairy digester projects can be "lumpy," i.e. biogas production from a new digester may be somewhat inconsistent. This inconsistency will be exacerbated when dairy clusters are involved. Not only might new digesters be inconsistent, each dairy digester in the cluster will come on stream separately, at a different time. Thus forcing everyone to file annually will create one or more "stub periods."
4. Staff sought stakeholder feedback on the importance of supporting the ability to participate in both LCFS and Cap-and-Trade. Calgren believes this is very important. Flexibility in the use of credits will encourage participation.
5. Staff sought comments on the Regulatory Compliance Requirement as it might relate to an LCFS pathway. Calgren recommends that the Regulatory Compliance Requirement be limited to those regulations directly relating to the digester and be limited to the period of non-compliance. As it is now, a "standing water" violation after a thunderstorm could theoretically keep a dairy from generating carbon credits for an entire year.
6. Staff sought recommendations regarding the application process. Calgren believes applications for dairy cluster projects should be capable of being reopened as new dairies choose to participate. Using Calgren's project as an example, we intend to build a pipeline that is substantially bigger than needed for the current dairy participants. We are convinced that additional dairies will wish to "connect" to the pipeline once they see the benefits that flow to the original dairies. Thus we recommend that Calgren (and others with dairy

cluster and/or pipeline projects) be allowed to reopen pathway applications to "admit" new dairies.

7. Staff sought feedback on amendments needed to balance uncertainty and variability in CI and the timeliness of credit generation. This is an important issue. First, as noted during the public session, dairy digesters are typically operated under ambient conditions. This means they will produce twice as much biogas in the summer as in the winter. Second, cattle counts at the dairy will vary somewhat. As noted in response #2 above, we recommend avoided emissions be estimated based upon quarterly cow counts. But we also recommend that average, year-long avoided emissions be estimated, not emissions during the applicable quarter.
8. Staff sought feedback on how LCFS crediting should be impacted by future California laws or regulations mandating methane capture. First, the livestock protocol provides a minimum ten-year period with ten-year renewals. If capture of methane is mandated within any applicable ten-year period, renewal for another ten-year period is not be possible, but the applicable ten-year period is not cut short by such a mandate. This ten-year period period of certainty is replicated in SB-1383. The more interesting question is whether the methane emission reductions mandated by SB-1383 can be achieved without legal or regulatory mandates. Dairy owners in California need to see some successful cluster projects. If that happens, follow-on projects will become easier. Thus ARB's attempts to come up with workable rules to allow avoided methane emissions at dairies will pave the way for new dairy cluster projects. We hope Calgren's cluster project similarly helps pave the way.
9. Staff sought feedback on the typical magnitude of energy use emissions in livestock projects. We conservatively estimate that each free stall milking cow will generate 4 MT of credits per year. The equivalent value for milk cows in open lots is 1.37 MT/cow; for dry cows in open lots the equivalent number is 0.80; and for heifers it is 0.57. These estimates result from the modeling used in the Livestock Protocol. During verification, the model numbers are compared to actual biogas production (which is typically greater) and the lower value is selected. For LCFS purposes, the amount of biogas used in the making of each renewable fuel should also be tracked. For example, in any particular year Calgren may use 10% of the biogas volume associated with livestock protocol credits in RCNG; 12% of the biogas volume to make biodiesel; 70% of the biogas volume to make ethanol; and flare the remaining 8%. In this example Calgren should be entitled to claim 10% of the verified Livestock Protocol carbon credits for RCNG; 12% for biodiesel; 70% for ethanol; and 8% under Cap-and-Trade. Obviously, Calgren would need an applicable LCFS pathway for the first three.
10. Staff asked whether an estimation method for emissions from energy use upstream of a biogas upgrade facility should be allowed. Calgren thinks they should. We believe the estimates can be quite accurate. For example, Calgren will use very little energy to remove sulfur from biogas so that it can be consumed in Calgren's burners to make incremental steam. More energy is required to remove CO₂ and compress to 255 psig to get biomethane into Calgren's turbines. Still more energy is required to compress to CNG. But each energy requirements is relatively easy to estimate with a fair degree of precision.
11. Staff seeks feedback regarding an allocation method. Please see Calgren's response in paragraphs 2 and 10 above.

Thank you for the opportunity to comment.

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