Comment on the Cal Bio LCFS Method 2 Fuel Pathway Application

First Name: Tom
Last Name: Frantz
Email Address: tom.frantz49@gmail.com

There are at least two major faults with this carbon intensity proposal by CalBio.

One, the LCFS requires a much more complete and thorough well to wheels analysis. The applicant proposes to begin their analysis with manure already sitting in a lagoon and releasing methane. But, that event does not happen in isolation. That event does not have to happen at all. It must be considered with the whole series of events and choices relating to the standard operations at this cluster of factory dairies.

Second, this proposal requests carbon credits for the produced CNG which includes a large negative credit for the methane emissions avoided. Their calculation then results in a large negative carbon intensity for the CNG fuel. But, there is no opposite debit for the methane that is released by these dairies from their other manure handling practices together with the enteric emissions from the cows themselves.

All so-called waste products from these cows, whether they be liquid, solid, or gaseous must be considered for their CO_2e.

All other emissions of green house gases at the dairy must also be added if there is to be a credit for emissions which are avoided.

Therefore, it is expected that this proposal will be sent back to Cal Bio for a more complete and accurate analysis reflecting the requirements of the LCFS and other general accounting principles under AB32.

Applicant's Response to LCFS Method 2 Fuel Pathway Application

Applicant thanks Mr. Frantz for raising these concerns and asking these questions. Please see below for our reply.

We will be required to use ARB's Compliance Offset Protocol for Livestock Projects (adopted November 14, 2014) to quantify the carbon offsets from the avoided methane for each of the anaerobic lagoon projects proposed to be developed in the Kern County Dairy Biogas Cluster. This protocol requires independent verifiers to confirm the avoided carbon emissions from the projects.

The projects will then be issued Registry Offset Credits following the requirements of this protocol and ARB's Cap-and-Trade Regulation.

The relevant factor is the baseline, which is defined by the existing operations. The proposed project and pathway will capture and destroy much of the currently vented methane, and in addition it will decrease GHG emissions from truck freight in the San Joaquin Valley and potentially traveling elsewhere. It will also have co-benefits including decreasing NO_X and particulate pollution from the same truck fleets; decreasing NO_X emissions from electrical engine generators; decreasing odors from the dairies by capturing and eliminating H_2S; and creating local jobs.

Methane emitted from the dairy, after the digester methane capture project is installed, remains as a fugitive methane emission, however it is substantially less than what was fugitive prior to the project being installed. Per the Compliance Offset Protocol for Livestock Projects, a methane capturing digester project only receives credit for the amount of methane actually captured and destroyed that results in emissions being less that what was previously fugitive. The protocol does take into account any methane leakages and any methane destruction inefficiencies. The LCFS credits provide a financial incentive to capture and destroy as much of the methane as possible.

Enteric emissions of methane do account for a portion of a dairy's methane footprint and are not currently addressed by Applicants proposed projects. The projects do not increase nor decrease enteric emissions which remain at their baseline level. ARB and others are separately seeking to define new methods and protocols to address enteric methane emissions. Any increases in CO2e emissions as a result of the project are also addressed in the Compliance Offset Protocol for Livestock Projects and subtracted from the verified credit amount.

ARB response and action

The Low Carbon Fuel Standard (LCFS) uses a life cycle analysis (LCA) approach to estimate GHG emissions per unit of fuel energy (also termed carbon intensity and expressed as gCO_2e/MJ) for all transportation fuels used in California. The LCA methodology uses a system boundary approach where emissions from only within the system boundary are attributed to a transportation fuel. Emissions from sources outside the system boundary are not included in the analysis.

For the Cal Bio pathway, the system boundary includes an open lagoon and the infrastructure to collect, clean, transport, dispense and use the biomethane in a vehicle. All emissions (i.e., processing, venting, etc.) within the system boundary were considered in estimating a carbon intensity value for this pathway. Emissions from outside the system boundary (i.e., non-lagoon sources) are not considered in the LCA because they are not expected to be related to fuel

production or impacted by the incentives created by LCFS. The comments above are therefore not applicable to this pathway. Staff recommends that the Cal Bio application be certified as a prospective pathway. Emissions from non-lagoon sources within a dairy may be considered under other regulatory actions or incentive systems in the future.