

July 11, 2023

Dear LCFS Staff,

In this short comment letter, I argue that the carbon accounting method used under the LCFS for dairy and swine manure projects is inappropriate, vastly inconsistent with the accounting framework used in the GHG Inventory (and Scoping Plan), and likely violates the AB 32 cost-effectiveness requirement for early action items.

To help illustrate my points, I am going to use a somewhat oversimplified, high-level accounting of GHG emissions for a dairy, both before and after implementing a digester project. Before implementing the dairy project, I assume that the dairy has historically operated with a lagoon to treat manure waste. Table 1 below shows some of the major categories of life cycle GHG emissions from such a simplified dairy operation. These illustrative values are entirely made up and are unitless.

Table 1

Emission Category	Before Digester	After Digester
Feed production	200	200
Enteric fermentation	500	500
Lagoon	300	0
Total	1000	700

Table 2 shows how the emissions after implementing the digester are allocated to the dairy/agriculture sector and RNG/transportation sector under both the LCFS and the GHG Inventory.

Table 2

Emission Category	Total Emissions	LCFS Allocation		GHG Inventory Allocation	
	After Digester	Dairy	RNG	Dairy/Ag Sector	RNG/Transport Sector
Feed production	200	200	0	200	0
Enteric fermentation	500	500	0	500	0
Lagoon	0	300	-300	0	0
Total	700	1000	-300	700	0

Under the LCFS allocation method, the dairy is allocated 1000 units of emissions, even though the total system emissions after implementing the digester project are only 700. **An accounting methodology that assigns more emissions to a subset of the system than are emitted by the entirety of the system is nonsensical!** However, this is exactly what is being done when CARB assigns a negative carbon intensity to RNG from dairy and swine operations.

The GHG Inventory allocation method assigns zero emissions to the RNG/transportation sector, while assigning the total system emissions of 700 to the dairy/agriculture sector. This allocation method makes much more sense and should be adopted by the LCFS.

Furthermore, following the GHG Inventory allocation methodology will bring the LCFS into better compliance with the AB 32 cost-effectiveness requirement for early action items. AB 32 Part 4 Section 38560.5(c) states that early action measures adopted by the board “shall achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions, in furtherance of achieving the statewide greenhouse gas emissions limit.” It is hard to argue that the LCFS, an early action item under AB 32, is achieving the most cost-effective reductions in California GHG emissions by assigning large negative carbon intensity values to RNG from dairy and swine operations. Avoided methane emissions for out-of-state dairy and swine projects are not counted under California’s GHG Emissions Inventory and therefore do not contribute to achieving the statewide greenhouse gas emissions limit.¹ Therefore, by assigning large negative CI values to RNG from dairy and swine operations, California consumers are sending a lot of money to out-of-state operations² for emission reductions that are not helping California achieve its statutory GHG goals. A more cost-effective approach would be to assign a zero CI value³ to RNG from dairy and swine operations and concurrently incentivize methane emission reductions at in-state dairy operations using a different program focused on dairies in California.⁴

Best regards,

Jim Duffy

¹ The same argument applies to LCFS credit generation for out-of-state direct air capture projects.

² If one assumes that at least half of the RNG from dairy and swine projects receiving credit under the LCFS comes from out-of-state projects, then the amount of money Californians are spending to subsidize methane emission reductions counted under GHG inventories in other states is likely well in excess of \$100 million annually (and growing).

³ Actual LCFS CI value should be slightly positive to account for RNG processing, transport, fueling, and non-CO₂ combustion emissions.

⁴ Some may argue that SB 1383 requires that dairy projects receive credit under the LCFS for avoided methane emissions for at least ten years. However, the plain language in SB 1383 states that the projects “receive credit for at least 10 years”. By assigning a carbon intensity of zero (or near zero), these projects would still receive credit under the LCFS for at least ten years. Concurrently with LCFS crediting for RNG production, CARB could subsidize the reduction in methane emissions at California dairies using the Cap-and-Trade offsets program, Dairy Digester Research and Development Program, or other program focused on California dairies. This approach would have the added benefit of putting alternative manure management projects on more equal footing with dairy digester projects regarding subsidy for avoided methane emissions.