
U.S. Dep't of Agriculture

At a recent California Air Resources Board (CARB) meeting, a staff member responded to a question about why CARB's program for reducing emissions from transportation fuels incentivized the capture of methane from landfills so much less than the capture of methane from dairies: "Landfills have a different CI [carbon intensity] score because they are regulated," the staff member explained. (Timestamp at 2:05:10).

CARB's Low Carbon Fuel Standard (LCFS) seeks to incentivize the production and sale of alternative, lower emissions transportation fuels in order to displace conventional fossil fuels. To identify which fuels should be promoted, CARB calculates the life cycle greenhouse gas emissions from transportation fuels. In these "carbon intensity" calculations, CARB is not allowed to count reductions in greenhouse gas emissions that are already required by law. If it did, the program couldn't claim to be incentivizing new reductions––it would simply be rewarding operators for activities they have to do regardless. As the CARB staff member pointed out, this differentiates landfill methane from dairy methane because emissions from landfills are already subjected to emissions controls and emissions from dairies are not. Thus, the capture of methane by dairy digesters "avoids" more methane emissions than the capture of methane from landfills. As a result, fuels derived from dairy methane receive significantly more LCFS credits.

The absence of baseline regulation of dairy operations isn't limited to greenhouse gas emissions. Agricultural operations are almost uniquely unregulated. At the federal level, agricultural operations are exempt from laws intended to prevent pollution to water and to

the air. Agricultural employees are excluded from the protections of the National Labor Relations Act. Agricultural employers receive exemptions from overtime and minimum wage requirements, and child labor laws are less stringent for agricultural operations. These exemptions have allowed factory farms to externalize the impacts of production, while, at the same time, federal subsidies and checkoff programs disproportionately benefit the largest commodity operations.

California's choice to pay dairies to capture a portion of their methane emissions, rather than requiring them to abate these emissions, is just one instance in a long history of exceptionalism for the largest agricultural operations. But CARB has the opportunity to change course now. CARB has justified its decision to issue lucrative credits to industrial dairies that construct anaerobic digester systems to capture dairy methane––despite years of pushback from environmental justice communities––through a basic anchoring premise: *there is no alternative*. But here's the thing: CARB itself has the authority to regulate greenhouse gas emissions from dairies.

A 2016 statute, SB 1383, limited the Board's authority to enact regulations of methane emissions from livestock operations until January 1, 2024. Rulemaking processes like these can last months or even years, but CARB has indicated that it does not intend to begin this process in the near future. In other contexts––like California's cap-and-trade program––the Board has initiated rulemakings far in advance of the statutory dates the new regulations could be enacted. So when CARB staff comment, as in the Board's recent meeting on the LCFS, that "There is no existing alternative for methane capture on those dairies" (at 2:07:01), or even more pointedly, "What is going to happen to control these emissions is digesters" (at 2:03:54), it is a self-fulfilling prophecy. CARB *can* regulate dairy methane. The Board's statement that there will not be a regulatory alternative to subsidizing dairy methane capture and utilization is not simply a comment on material conditions in the dairy industry; it is a decree by CARB.

As a matter of economic and technical feasibility, to say there is no alternative to dairy digesters for reducing agricultural methane emissions is simply wrong. Dairies around the country employ a variety of practices beyond the liquid manure management systems required for dairy digester systems. Liquid manure management systems generate more methane (and use more water) than the pasture-based or dry manure management systems common on smaller farms. Unfortunately, these smaller-scale dairies have languished as federal and state policies—including the LCFS—have consistently prioritized the needs of industrial-scale operations. Environmental, environmental justice, animal welfare, immigration, workers' rights advocates, and smaller farmers have been pushing for changes to the system of industrial animal agriculture for decades. Visions for more sustainable

models of agriculture, a more just food system, and the policy proposals to make them a reality are abundant.

What has not been abundant is the political will to enact these reforms, and CARB's reluctance to initiate a rulemaking reflects this trend. Unfortunately, in the LCFS, CARB has embraced an approach to reducing emissions from the transportation sector that relies on locking in emissions from the agriculture sector. CARB has for years brushed aside community advocacy on this issue and has insisted, successfully, on making the embrace of anaerobic digesters on dairy operations a reality. It's not hard to see why CARB has taken this approach: dairy digesters are a technological intervention that require little change to the operation of industrial dairies. To CARB, installing digesters is a win-win. The largest, most politically-powerful dairies receive huge subsidies for their operations (a UC Davis study from a few years ago found that the LCFS turns the generation of biogas from a net loss to one that nets a profit of $1,700/year per cow). For CARB, the reported emissions reductions from biogas, which are premised on layers of dubious assumptions about leakage, herd sizes, and manure management in the absence of the LCFS, could help the state report that it's meeting its on-paper emissions reduction goals. This is further exacerbated by the biogas-to-hydrogen pathways that launder emissions from both dirty hydrogen operations and dairy digesters.

While CARB's current approach helps the state take credit for significant (but potentially illusory) emissions reductions, it has largely failed to grapple with the equity impacts of this strategy. Although dairy digesters are not profitable without the LCFS, they are particularly out of reach for small farmers, due to their reliance on economies of scale and huge up-front costs. So when CARB awards LCFS credits to operators of dairy digesters, it gives further competitive edge to the same factory farms that are replacing small operations at an alarming rate, furthering the consolidation of the dairy industry, hurting rural communities, jeopardizing animal welfare, and encouraging continued investment into combustion technologies that the state is attempting to phase out. At the same time, environmental justice communities in the Central Valley have consistently called out the inequitable pollution burden from dairies and called on CARB to reform the LCFS so that the program doesn't lock in these disparate impacts.

CARB has backed itself into a corner: if the agency regulates emissions from the dairy industry, as it should, it will no longer be able to count the reductions from dairy digesters as intensely carbon negative. This situation creates a perverse incentive for CARB not to regulate emissions from dairies—as advocates have been demanding for years––because if it does, enthusiasm around digesters may falter. Dairy digesters feature prominently in CARB's 2022 Scoping Plan, California's sector-by-sector roadmap toward carbon neutrality,

as a significant source of emissions reductions. Yet despite CARB's optimistic carbon intensity assumptions and expectations for dairy digesters, CARB concedes that the state is not on track to meet even half of its statutory methane reduction goals from livestock operations. On top of this perverse incentive, CARB remains under pressure from a powerful dairy industry that is not shy about threatening to leave California for greener pastures (pun intended) if the state reduces dairy digester LCFS credits or attempts to regulate dairy methane.

The new biogas subsidization frenzy brings to mind past failures attempting to jumpstart a market for crop-based biofuels. But it's not too late for CARB to exercise its upcoming regulatory authority to adopt rules regulating methane emissions from dairy before it sinks any more capital into a purported solution that is bad for animals, communities, sustainable farmers, and our long-term climate goals. It won't be easy to find a regulatory pathway that properly abates methane emissions, improves community health outcomes, and is politically palatable. But that's CARB's (difficult and often thankless) job. The difficulty of this problem is all the more reason to begin the regulatory process as soon as possible, and punting on it now will only further entrench CARB's false claim that there is no alternative to dairy digesters.

The idea of regulating greenhouse gas emissions from agriculture isn't new. In Europe, greenhouse gas emissions from agriculture are part of the Effort Sharing Regulation, which sets binding targets for member states in a range of sectors, including agriculture. As earlier as 2012, studies evaluated the applicability of greenhouse gas emissions trading programs to agriculture. In the United States, we already have a model for regulating emissions under the Clean Air Act. In 2021, a group of 25 organizations petitioned EPA to include dairy and hog operations as source categories and argued that EPA should develop performance standards for these operations based on the greenhouse gas emissions reductions achievable using pasture-based systems.

Naturally, advocates on the many sides of this issue can offer arguments as to why these particular suggestions may not effectively reduce methane emissions, or may fail to improve community health outcomes, or just don't make economic sense. But that's precisely why CARB should initiate a rulemaking. It will take time, resources, and careful thought to regulate methane from agricultural emissions. But the longer we wait, the more difficult this process becomes.