Ag Methane Advisors

Comments Re: CARB Short Lived Climate Pollutants Proposed Strategy

May 23, 2016

Thank you for the opportunity to provide comments for the Proposed Short Lived Climate Pollutants (SLCP) Strategy. Ag Methane Advisors helps dairies around the country reduce their methane emissions, including supporting digesters in California that participate in CARB's C&T program.

We support the work of CARB to help ensure that necessary reductions from SLCP emissions and agricultural methane in particular are achieved. We understand and agree with the goals of the SLCP strategy and support CARB's belief that dairy and other livestock industries can and should work diligently to reduce their methane and other GHG emissions. Based on conversations with CARB staff we are also under the impression that much of the motivation to reduce agricultural methane emissions (in part by mandating the adoption of methane digesters) is in response to slower rates of digester adoption in California than CARB expected and wanted to see. However, we think that requiring dairies to implement best practices to avoid methane emissions, including digesters will not have the desired outcome, and instead will result in continuing to hinder the digester industry in California (and other states), and ultimately result in fewer dairies in California adopting the technology. We expect that the consequence will be an increase in methane emissions inside California (rather than the goal of reductions) along with leakage of GHG emissions outside the State as existing dairies re-locate and potential new dairies chose to locate elsewhere.

It seems that a good barometer as to whether the SLCP strategy is designed and crafted to achieve the desired outcomes would be the reaction from technology vendors and developers of dairy digester projects. If a mandate to capture dairy methane emissions were to be imposed it's reasonable to expect that the developers and technology vendors would be very happy about it since the expected outcome is that there would be more projects for them to build and operate. Unfortunately, based on recent conversations with the leading technology vendors and digester developers both within CA and across the US, they are not optimistic. Their responses share a common theme. The revenue from LCFS and RIN credits and the promise of grants to fund the projects are both too uncertain. Carbon offsets are currently a functioning mechanism to help finance projects, and as fewer electric utilities want to buy RECs bundled with power because they are getting the RECs they need for RPS obligations from other renewables, carbon offsets have become a more crucial revenue stream to get digesters built and to keep them running. Substantial improvements can be made to CARB's compliance offset program (most significantly modifications to regulatory compliance obligations that penalize good projects for an entire year in instances where regulatory compliance issues have no material adverse impact, no direct relationship to the project,

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and/or are of limited duration), but there are currently about 60-70 active dairy digester projects across the US that depend on revenue from the sale of from Carbon Offsets created within ARB's C&T program. The potential for revenue from LCFS credits seems unrealistic at this point given the massive barriers to actually driving vehicles in CA on renewable biogas, the uncertainty of prices in the LCFS market and the uncertainty of the LCFS regulation itself. Furthermore, since the ultra low LCFS Carbon Intensity (CI) pathway (-276gCO2e/MJ) proposed by California Bioenergy is dependent on creating offset credits and claiming the reductions under the LCFS rather than the C&T program, it is misleading of CARB to base the economic assessment of the SLCP strategy on a projects' ability to monetize LCFS credits using a similar pathway. If CARB is considering a mandate for digesters that would eliminate the possibility of such an ultra-low CI value, then there is no basis for including the CI value in the economic assessment.

Dairy producers across the country, and California in particular, operate within an extremely complex regulatory structure. Many of the associated regulations have no direct bearing on the GHG and other great benefits provided by livestock anaerobic digestion projects. But looking at the history of new regulations on the dairy industry can inform the expected outcome of imposing a mandate for anaerobic digesters. Over the last hundred plus years as dairies were required to have concrete floors, then bulk milk tanks, then milk supply and price were regulated, the outcome has been further consolidation of the dairy industry. While there are undoubtedly crucial and important food safety benefits, small dairies leave or go out of business, and the dairies that can adapt grow larger. This historical context would be relevant if dairies in CA are required to construct and operate digesters. Frequently, electric utilities and other industries where prices are regulated can pass the cost of added regulations on to consumers. This is the case with the Cap and Trade program. However given the regulatory structure of milk pricing dairies would be unable to pass on the huge costs of potential new regulations requiring them to install digesters. As a result, some existing dairies will leave the state and move to places where there are fewer and less stringent regulations. Some existing dairies will leave the business. Dairies that were considering growing larger will be incentivized to leave the state along with people considering building new dairies. There has been a growing trend in the dairy digester industry over the last 5-7 years of third party project developers owning and operating the digesters located on dairies rather than the dairies owning them themselves. Operating a digester is too risky for a most dairies in many ways. Obligating farms to install digesters would present many risks to the overall financial viability of each farm. California produces more milk than any state in the US, and does a very good job of doing so efficiently. California should focus on continuing to do that and encouraging the efficiency because it leads to GHG reductions.

Enteric methane emissions from dairy cows are a much larger source of GHGs than manure emissions. Efficiency of production is crucial in this. A cow that is healthy and has an appropriately tailored feed ration will generally produce fewer enteric methane emissions than a cow that is not taken care of as well. This translates to efficiency of milk production, which is good for business. CA should encourage dairies to remain in the state where efficiency is so high by providing incentives rather than further mandates, which have uncertain promise of financial viability. One example of such an incentive would be a Compliance Offset Protocol for reducing enteric methane emissions. The SLCP strategy mentions research into enteric methane, but doesn't talk about an offset protocol. At a

biochemical and research level quantifying enteric methane emissions is extremely complex and research could be on-going for years and years. But a protocol that focuses on monitoring methane exhaled by cows could rely on relatively simple emissions monitoring technologies and avoid the complexity of quantifying emissions by starting at the feed then considering the processes within the rumen. Imagine if there was a financial incentive for farms to install a dairy specific version of a continuous emissions monitoring system in the barn (such technologies exist and are cost effective!), and farms that found ways to reduce their emissions would be rewarded with financial incentives. This could achieve much greater methane reductions than mandating digesters and while supporting the dairy industry.

Put simply, we encourage CARB to look at a potential digester mandate from the perspective of a dairy farmer. It's a hard business. In the central valley of California recently one can probably make a lot more money converting land to almond plantations rather than producing feed for cows and operating a dairy. If you tell a dairy farmer that they must invest several million dollars in a technology that in practical on the ground terms is not economically viable, they are going to wonder why you are trying to put them out of business. However, if you provide incentives, which are simple and easy to access (ie. non-competitive grants with streamlined application processes), along with markets for digester related commodities (i.e. energy, environmental credits, post-digestion recovered nutrients and cow bedding co-products) that have stable prices, and provide unquestionable financial value (ie. feed in tariffs, price floors for commodities) and you remove the technology and regulatory barriers then dairy farmers and project developers will rapidly adopt methane reduction technologies and practices.

We look forward to working with CARB to further refine the SLCP strategy. We are confident that the program can ensure necessary methane reductions from agriculture by providing appropriate incentives that support the growth of the livestock anaerobic digestion industry and in turn supporting a more productive and viable dairy sector and working landscape throughout the state.

Thank you for your consideration of these comments.

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