camco

California Air Resources Board

1001 I Street, Sacramento, CA 95814

Date: May 26, 2016

Submitted to: http://www.arb.ca.gov/lispub/comm/bcsubform.php?listname=slcp2016&comm_period=N

Camco is a developer, owner and operator of anaerobic digester projects on dairy farms and a developer of carbon offsets from farm digester projects. Camco owns and operates dairy digester projects and manages offset generation at 24 projects across the U.S. - to date, Camco has delivered over 1 million offsets from dairy digester projects in California's cap-and-trade program. Camco is also in the process of, with assistance of a grant from the CDFA, building a new dairy digester in Visalia, California, scheduled for start of operation in 2017.

This letter is in response to the ARB's call for comments on the Short-Lived Climate Pollutants (SLCP) draft strategy released on April 26th and a follow-up to Camco's comments provided on October 30th 2015. In particular, ARBs proposal to begin developing a regulation that would require one-third of the state's dairies to eliminate manure flushing and anaerobic storage lagoons or install anaerobic digesters by 2025.

We are encouraged that ARB appear to have taken some of the previous comments on board, in particular the requirement for new or expanded facilities to put anaerobic digesters in place and the inclusion of more references to market based mechanisms designed to encourage the development of digesters. We support the establishment of a working group to look at eliminating barriers to digester development and urge that this be composed of a broad spectrum of stakeholders, including carbon offset and renewable energy project developers and investors.

However, we remain concerned with ARBs intention to move forward with a regulatory approach. We are also confused by some of the market analysis presented in the *Evaluations* section. The numbers presented are not representative of the actual costs and revenues Camco sees when developing digester projects. We remain confused about where grant money, put at $500 million, will come from. Finally, we reiterate the point made in our previous submission, that California is implementing a number of market-based policies which need to be given time to work and that the focus and effort should be placed on strengthening these mechanisms and overcoming the remaining barriers at the various regulatory agencies to digester projects.

Regulatory Approach – Promote innovation, not regulation

It appears as though ARB has determined that emissions from dairies can be regulated in a similar manner to other types of fugitive emissions. This philosophy – which appears at odds with the market based approach ARB says it would like to foster – ignores some significant differences between dairies and other fugitive sources, for example the large number of dairies in California, their relatively small size (making it hard to fund digester development and manage operational projects), differing proximities to gas pipeline and electricity connections and locations in non-attainment areas making it very expensive to install and operate combustion technology to name a few. It also appears at odds with ARBs, and the legislatures approach, of developing market approaches to incentivize dairy digester development.

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It is difficult to understand how ARB, on the one hand will foster markets and encourage investment in the short-term while announcing its intention to regulate in the medium term. ARB acknowledge that energy income is insufficient to fund a digester, that scrape/solid manure handling systems aren't practical in the largest dairies of the Central Valley due to land constraints, and that the market for compost is insufficient. ARB needs to recognize that the dairies don't have money to convert their manure systems because they are selling a commodity product and digesters are not yet economical. Regulating GHG emissions from dairies will force many more to switch to different uses for their land.

Creating uncertainty regarding the future of market approaches, and in the case of offsets removing this market, will likely see few developers willing to risk the capital and resources to move projects forward. Supporting markets on the one hand while threatening with regulation on the other does not make for an attractive investment environment, especially in a space where so few projects have been built. Investors want to see ARB committed to following through on markets and removing barriers, such as lengthy and costly interconnection times and an uncertain tariff regime.

We are also concerned that although the SLCP acknowledges that significant support will be needed to implement a wide-ranging program to limit dairy emissions there is little attention paid to where this support will come from. A figure of $100 million each year for five years is mentioned. In 2015, $11 million was provided. It is not clear how much will be provided for 2016. Is it wise for ARB to talk of eliminating existing sources of revenue for these types of projects without first having confirmation of where revenue will come from to fill the gap?

Another concern we have with the regulatory approach is that it will likely be difficult to specify that gas must be used productively, i.e. to generate power or used as renewable natural gas (RNG). If this is not possible, then by far the cheapest option for owners would be to cover lagoons and flare captured biogas. In Camco's experience these types of project have limited success because the owner has limited incentive to maintain and invest in the ongoing project maintenance as there is no revenue source associated with flaring the gas. Significant methane flaring would also likely run into air quality issues.

Economic Analysis

The analysis presented by ARB in the *Evaluations* section shows how changes in prices for credits generated by digester projects can impact their feasibility. Using numbers which don't appear grounded in reality -offset prices for developers of these projects either today or in the future have never reached $13 and LCFS prices of $100 appear to be based on the last few months of data (in Q2 2015 LCFS prices, as reported by ARB averaged $24)[1] – paints an unrealistic picture regarding the economics of digester projects. Prior to setting out on any regulatory path ARB needs to better set out the economic rationale and costs associated with its proposals. For example, at LCFS prices of $40, ARBs analysis shows a fall of $1.6 billion in the net present value of digester projects. The shape of the LCFS, RFS, BioMAT and cap-and-trade markets post-2020 will have a big impact on economic viability. It will

[1] http://www.arb.ca.gov/fuels/lcfs/credit/20151208_novcreditreport.pdf

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be difficult for investors to rely on post-2020 income from these markets until there is further regulatory clarity which is not expected until 2018, and in the case of the RFS later.

Leakage

California has maintained its market positon as a leader in the dairy sector despite high operating costs and a strict regulatory environment when compared to other dairy friendly states. Many dairies that are looking to expand are being forced to look outside of California. Land values, regulatory red tape, and overall tax incentives are driving animals out of California to states like Idaho, Arizona, New Mexico and even as far as the Midwest. In Camco's experience the large operators are the market movers for innovative changes that have led to some of the best reductions in emissions and environmental impact. Most of the recent methane based initiatives in California have been focused on reducing the regulatory red tape and increased the revenue potential for clean technologies that has prevented digesters from being installed in the state despite the overwhelming potential for installation. By forcing additional regulatory constraints (which this initiative will do) on dairies California may push dairy farmers out of the state. Further, the strategy may actually see an overall increase in emissions rather than a decrease as dairy owners site their facilities out of state. Equally important is that ARB's strategy will remove the potential to generate offsets outside of California.

Electricity from digester projects can also help CA meet its renewable energy goals. It should be in the state's interests to develop an attractive environment for dairy facilities that can bring a large number of co-benefits, including clean power, rather than prescribing solutions which cannot currently be justified on economic grounds. Incentivizing dairies to move out of state would deprive California of generation resources that lower the carbon intensity of the state's electricity supply and do nothing to reduce methane emissions.

Offset Investors

Investors in offsets projects commit resources to technologies / project types which have high greenhouse gas mitigation potential but low market penetration. Offsets revenue provides first-movers with an essential incentive to justify the high risk and costs of developing projects that otherwise are not commercially viable. As take-up increases, investors recognize there is a limited timeframe to generate income from a project type / technology and seek to roll out more as quickly as possible. This is because the technology / project type eventually become commonplace and no longer eligible to generate offsets (no longer additional). ARB should adapt its strategy to facilitate private investment recognizing that high-risk projects require certainty and short development timeframes, along with returns commensurate to the risks of unproven technology or markets.

In the case of digesters it is obvious that there are significant barriers, as discussed above, to entry. Implementing a mandate requiring the adoption of a technology will result in projects not just in California but across the U.S. from no longer being eligible to receive offset revenues. This is despite a penetration rate of less the 2% in California. If implemented, offset investors will be concerned that the same approach, i.e. not based on the level of penetration but based on an arbitrary policy response, will be applied to other sectors.

From a developers perspective there remain significant barriers to the development of digester projects at facilities in California. Actions taken by regulators over the past few years, the start of the Bioenergy FiT and a successful, yet

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nascent, carbon market have the potential to make some headway in making digester projects more economically viable and therefore reducing emissions as well as keeping projects in state generating green power and economic benefits. Focusing on increasing the implementation of these technologies via grants, market mechanisms, tax incentives, and reduced regulatory constraints can work. Driving projects to other states will only force the pollutants to other states less willing to help reduce their production and reduce the net benefits the diaries provide to the state of California.

Summary

The best way to mitigate dairy emissions is to continue down the path of generating incentives for dairy operators – who are some of the most sophisticated in the U.S. – to capture their methane and use it productively. Changing course, just as developers and operators are becoming familiar with the value of carbon revenues and as other initiatives start to pay-off, would likely push projects out of state and discourage investment into offset projects more generally.

Camco advises ARB to take an approach of putting in place a working group to focus on eliminating barriers to digester projects in California and for ARB to continue to strengthen the existing policy regime to give developers greater certainty on future revenues so that digesters make better economic sense. Once digesters start to get constructed in meaningful numbers ARB should start to look at modifying its incentive policies.

Yours sincerely,

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