



California Air Resources Board

1001 I Street, Sacramento, CA 95814

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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 two dairy digester projects with a combined power generation capacity of 6.75MW and manages offset generation at 24 projects across the U.S. - to date, Camco has delivered almost 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 ARBs call for comments on the Short-Lived Climate Pollutants (SLCP) draft strategy released on September 30th. In particular, ARBs proposal to implement a regulation in 2018 that would require new or expanded livestock facilities to install and operate an anaerobic digester to limit the increase in emissions from manure management in future.

As a developer and operator of digester facilities and a producer of carbon offsets, Camco has a number of concerns with ARBs proposed approach:

- Dairy digesters are not currently economically feasible in California without carbon offset revenue – ARBs proposed approach would eliminate an important revenue stream (carbon offsets) that is currently helping to stimulate digester development;
- It may not be possible to implement digesters at every new dairy facility due to local conditions and availability of water;
- ARBs approach does not incentivize operators to manage their facilities so as to maximize methane capture and destruction;
- Rather than be forced to implement digester technology dairy operators may move out of state. ARB would incentivize leakage (resulting in more emissions compared with the current policy environment) by pushing dairy operators to locations where there is no requirement for them to install digester technology and (as a result of removing the offset revenue) no incentive for them to consider installing a digester; and
- Modifying regulations so as to eliminate the additionality of digester projects without having commercial justification will undermine future investment into the offsets space.

Economic Feasibility

As the SLCP notes, California has approximately 1,000 dairies with more than 500 milking head. Of these only 17 have operating digesters, some of which are using co-feed to be viable. Of these 17, only 6 have been installed in



the last 5 years¹. There has been much analysis of the potential for, and barriers to, digester development in California. Barriers included air permitting issues, difficulty of interconnection and availability of a sufficient offtake price for power or gas generated. As the limited number of digesters in operation shows, many of these barriers remain.

The SLCP discusses the possibility of providing increased funding and initiatives to help break down these barriers but does not specify where funding will come from or how much funding will be made available. New policies and initiatives also take time – witness the Bioenergy FiT which was passed in the legislature in 2012 but has yet to start operation. In addition, the SLCP does not mention that there is currently a significant funding source, in the form of carbon revenue, which is available to existing and new facilities and supported by an ecosystem of service providers who can supply the expertise necessary to generate and sell offsets.

Camco has spent seven years, and significant sums of money, developing a new digester project in Visalia which is yet to start construction. Receipt of grant funding from CDFA is helping to move this project forward but to be viable the project depends on power revenue and revenue from the sale of carbon offsets. Without carbon revenue the project would require a significant increase in grant funding or a significant increase in the Feed-in-Tariff rate.

It is difficult to see how, by removing the potential for carbon revenue, digester projects will be economically feasible. If ARB wants to “Foster Markets” as mentioned in the SLCP it should look to build upon the success of the carbon market to date and work to implement existing policies and programs and provide operators with a stable policy environment to make the construction and operation of digesters attractive. Having spent the past nine years taking comment on, developing and implementing an offsets program, and having encourage developers and service providers to provide expertise, to remove this market-based incentive just as it is starting to become familiar seems to convey the opposite message on markets to the one ARB is trying to foster.

Digester Suitability and Monitoring

At many locations it is simply not viable, or only viable with additional costs, to implement a digester project. The SLCP acknowledges that some dairies in California operate on pasture, others use flush systems while others use vacuum and/or scrape systems. Dry lot systems emit little methane currently due to the less confined nature of the herd and the practice of spreading manure around large open lots. Modifying these types of systems to collect manure that is free of dirt and sand will require significant changes to the dairy practice itself (and additional investment) and may require additional water, creating permitting and other issues.

Monitoring

Offset projects have very strict monitoring and metering requirements, with operators unable to generate offsets if they can't show gas flow, destruction and necessary maintenance records. Offset protocols effectively provide an

¹ See AgSTAR database for operating digesters in California with a population of over 500 animals feeding the digester: http://www2.epa.gov/sites/production/files/2015-06/agstar_digester_update_may_2015.xlsx



incentive not only to develop digesters but also to operate and maintain them so the maximum amount of biogas is captured and destroyed. Costs for this are borne by the operator themselves. Mandating the installation of a digester may still result in significant quantities of biogas being vented, especially if economic incentives are marginal and there is not a tight (and expensive) inspection regime in place.

Leakage

California has maintained its market position as a leader in the dairy sector despite high operating costs and 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 looking to expand or move into the region will force dairy operations to move to lower land based cost states with more friendly regulatory and/or operating costs. California will effectively push the very people that should be receiving support 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 and, because the strategy will remove the potential for all new / expanded projects to generate offsets anywhere in the U.S. mean there is a reduced incentive for these operators to install a digester.

Power 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 new 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 operators to move out of state would deprive California of these co-benefits 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 take-up. Offsets revenue provides first-movers with an additional incentive and can help to justify the high costs of developing projects where they otherwise would not be commercially viable. As take-up increases, investors should be able to generate returns by rolling out more projects until the technology / project type becomes commonplace and thus no longer eligible to generate offsets as projects would no longer meet an additionality test.

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 new / expanded 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 than 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.

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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 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 dairies provide to the state of California.

Summary

While new or expanded dairies may have the potential to increase methane emissions, the best way to mitigate this is to continue down the path of generating incentives for operators – who are some of the most sophisticated in the U.S. – to capture their gas 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 letting the existing policy regime work and take shape so that digesters make economic sense for new and existing dairy facilities. Once digesters start to get constructed in meaningful numbers ARB should start to look at modifying its incentive policies.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "CP", is written over a horizontal red line.

Charles Purshouse

Vice President, Camco International Group, Inc.