

Asian Pacific Environmental Network • Association of Irrigated Residents • AZUL
California Environmental Justice Alliance • Center for Food Safety
Center on Race, Poverty & the Environment • Central Valley Air Quality Coalition
Clean Water Action • Clean Water and Air Matter • Committee for a Better Arvin
Committee for a Better Shafter • Comité Residentes Organizados al Servicio del Ambiente Sano
Communities for a Better Environment • Community Science Institute • Food & Water Watch
Fresnans Against Fracking • Greenfield Walking Group
Institute for Agriculture and Trade Policy • Merced Bicycle Coalition
Our Children’s Earth Foundation • Physicians for Social Responsibility – Lost Angeles
Sierra Club California • TriCounty Watchdogs

October 30, 2015

Via Online Submission

Ryan McCarthy
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California Air Resources Board
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Re: Comments on Draft Short Lived Climate Pollutant Reduction Strategy

Dear Mr. McCarthy and Mr. Segall:

Pursuant to Senate Bill 605 (Lara), the Air Resources Board has released the Draft Short Lived Climate Pollutant Reduction Strategy (hereafter “Draft Strategy”) to propose control measures to reduce Short-Lived Climate Pollutant emissions. These comments on the Draft Strategy are submitted on behalf of the Asian Pacific Environmental Network, Association of Irrigated Residents, AZUL, California Environmental Justice Alliance, Center for Food Safety, Center on Race, Poverty & the Environment, Central Valley Air Quality Coalition, Clean Water Action, Clean Water and Air Matter, Committee for a Better Arvin, Committee for a Better Shafter, Comité Residentes Organizados al Servicio del Ambiente Sano, Communities for a Better Environment, Community Science Institute, Food & Water Watch, Fresnans Against Fracking, Greenfield Walking Group, Institute for Agriculture and Trade Policy, Merced Bicycle Coalition, Our Children’s Earth Foundation, Physicians for Social Responsibility – Lost Angeles, Sierra Club California, and TriCounty Watchdogs.

The Draft Strategy proposes *voluntary* methane controls for the California dairy industry. Given the urgent need to reduce Short-Lived Climate Pollutants, and the substantial contribution of dairy methane to California’s total greenhouse gas emissions, the ARB should fully investigate all potential controls, especially pasture-based dairy systems, which offer multiple co-benefits. The Draft Strategy’s premature and wholly inappropriate reliance on voluntary controls neither comports with Senate Bill 605 nor reflects sound, fair policy when the rest of California’s major greenhouse gas emitters are all subject to mandatory controls.

The undersigned recommend that ARB revise the Draft Strategy to include mandatory methane controls for the dairy sector and tangible support for dairies interested in transitioning to pasture-based systems, which provide many environmental and economic co-benefits.

Introduction

The Draft Strategy states that the “science unequivocally underscores the need to *immediately* reduce emissions of Short-Lived Climate Pollutants[.]”¹ Despite this acknowledgement, the Draft Strategy proposes *voluntary* controls for existing dairies’ methane emissions, the largest uncontrolled sector of the California greenhouse gas inventory.²

California’s 2014 Gross Domestic Product was \$2.13 trillion,³ with 2014 California milk production accounting for \$9.4 billion.⁴ Accordingly, dairy accounts for 0.44% of California’s economy, yet livestock manure management and enteric methane emissions (mostly from dairy) accounted for 5.2% of California’s 2013 total greenhouse gas emission inventory.⁵ Dairy thus contributes a vastly disproportionate share of greenhouse gas emissions compared to its overall contribution to the California economy.

The 2013 emissions inventory demonstrates that California dairies account for forty-five percent of California’s methane emissions.⁶ In the San Joaquin Valley, *at least* eighty-seven percent of methane emissions are from dairy (and other cattle) operations.⁷ As a result, the State Board should ensure that dairies do their fair share to reduce methane emissions and should not allow the dairy industry to continue to voluntarily control methane, which unfairly places a greater reduction burden on other sources of greenhouse gases.

¹ Draft Strategy at ES-1 (emphasis added).

² Draft Strategy at 45

³ California Legislative Analyst Office, July 1, 2015, available at <http://www.lao.ca.gov/LAOEconTax/Article/Detail/90>

⁴ California Department of Food and Agriculture, available at <https://www.cdfa.ca.gov/statistics/>

⁵ California Greenhouse Gas Inventory 2000-2013, available at http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_2000-13_20150831.pdf

⁶ Draft Strategy, Appendix A at 6.

⁷ D.R. Genter, et al., Emissions of organic carbon and methane from petroleum and dairy operations in California’s San Joaquin Valley, *Atmos. Chem. Phys.*, 14, 4955–4978 (2014).

The Legislature has directed the ARB to, *inter alia*, (1) identify existing and potential new control measures for Short-Lived Climate Pollutants; and (2) prioritize development of new measures that offer co-benefits for water quality and air pollution reductions that benefit disadvantaged communities.

In developing the strategy, the state board shall do all of the following:

- (1) Complete an inventory of sources and emissions of short-lived climate pollutants in the state based on available data;
- (2) Identify research needs to address any data gaps;
- (3) Identify existing and potential new control measures to reduce emissions;
- (4) Prioritize the development of new measures for short-lived climate pollutants that offer co-benefits by improving water quality or reducing other air pollutants that impact community health and benefit disadvantaged communities, as identified pursuant to Section 39711; and
- (5) Coordinate with other state agencies and districts to develop measures identified as part of the comprehensive strategy.

Health & Safety Code § 39730(a).

The State Board Should Fully Investigate Methane Control Measures and Should Require Mandatory Methane Reduction Targets at Dairies.

In May 2015, the ARB released the Concept Paper, which discussed anaerobic digesters (covered liquid manure lagoons that capture methane emissions) and manure scraping as strategies for reducing manure-based methane emissions, which represent twenty-five percent of California's total methane emissions.⁸ The Concept Paper also briefly addressed breeding and dietary strategies for controlling enteric methane emissions, which account for twenty percent of total emissions.⁹

By letter dated June 10, 2015, environmental justice and environmental organizations urged the State Board to investigate and include additional control options in the Strategy, including (1) pasture-based dairy systems; and (2) enclosed freestall barns and anaerobic digesters vented to biofilter systems to capture and treat methane and volatile organic compound (VOC) emissions without the negative consequence of increased NOx emissions in the San Joaquin Valley.¹⁰ The letter also asked the Board to thoroughly investigate and determine cost-effectiveness in the context of current and proposed climate stabilization goals, as well as multiple co-benefits.

Despite the Legislature's direction, the Draft Strategy proposes to continue *voluntary* manure management controls, proposes no enteric emissions controls, and simultaneously fails to investigate the environmental, economic, and other co-benefits of pasture-based and biofilter control options. At the public workshop in Fresno on October 19, 2015, ARB staff indicated that

⁸ Draft Strategy, Appendix A at 6.

⁹ *Id.*

¹⁰ Letter from Brent Newell, *et al.* to Ryan McCarthy and Craig Segall, June 10, 2015.

staff would perform a cost-effectiveness and co-benefits analysis to accompany the next draft of the Plan. However, the ARB has already capitulated to the demands of the dairy industry and has proposed voluntary control measures for manure management at existing dairies without first (1) identifying existing and potential new control measures; and (2) prioritizing development of new measures that offer co-benefits for water quality and air pollution reductions that benefit disadvantaged communities.

The Draft Strategy celebrates combusting biogas from anaerobic digesters to generate electricity that “can displace emissions from centralized fossil-based systems”, but fails to acknowledge the significant shortcomings of anaerobic digesters as a methane reduction strategy. As described in the June 10 letter, such combustion adds NO_x (an ozone and PM_{2.5} precursor) to the severely polluted San Joaquin Valley air basin where most confinement liquefied manure dairy systems are located. Before the ARB claims that consumption of bio-gas to produce electricity provides a co-benefit, it should investigate and demonstrate that electricity generation at a dairy-based anaerobic digester operates more efficiently and produces less GHGs and criteria pollutants than a combined cycle natural gas-fired power plant. Recent research has demonstrated that anaerobic digesters are not economically sound investments and do not address the air or water pollution associated with manure management on confinement dairies. It is critical that these shortcomings be researched further and that further public funding for digester projects be withheld until the technology consistently provides *both economic and environmental co-benefits*.

The State Board has failed to perform a meaningful assessment of the relative co-benefits of a pasture-based system, including an assessment of carbon sequestration, reduced VOC emissions, and overall reductions in methane from both manure management and enteric emissions. The Draft Strategy briefly discusses pasture-based systems and states that they may be “a viable option in some instances.”¹¹ However, the single paragraph in the Draft Strategy discussing pasture-based systems dismisses the benefits of pasture with conclusory statements unsupported by any analysis by the State Board. The Draft Strategy fails to support its assertion that pasture-based systems are not a widely viable methane reduction strategy because they allegedly would require more land, “pose feed production and animal welfare concerns”, may face nutrient management issues, have reduced milk production efficiencies, and have higher enteric fermentation per unit of milk produced.¹²

The claim that pasture-based systems implicate animal welfare concerns is especially specious. A “happy cow” living on pasture and grazing enjoys a far more natural and humane life than a cow confined to a freestall barn or manure filled corral with no access to pasture. As the June 10 letter demonstrates – and which the State Board has not refuted – the pasture-based system avoids anaerobic methane emissions, sequesters carbon, avoids corn silage VOC emissions, and leads to less enteric emissions because pasture-based systems rely on fewer cows per acre. Moreover, the Draft Strategy improperly focuses on GHG emissions per unit of milk rather than overall methane reductions needed from the dairy sector. The Strategy required by SB 605 should yield overall methane reductions and not Low GHG Milk. Furthermore, the State

¹¹ Draft Strategy at 44.

¹² Draft Strategy at 44.

Board has failed to consider that water consumption may be lower in pasture-based systems than confinement-based dairies. This could be done using existing data from confinement-based systems and pasture-based systems in the San Joaquin Valley, where irrigated pasture is a demonstrated practice. Given pasture's promising co-benefits and methane reductions, including the benefits of reduced herd sizes' enteric emissions, the State Board should fully investigate the merit of pasture as a viable methane control strategy and revise the Draft Strategy to include *tangible support*, through grants and financial incentive programs, for dairies interested in transitioning part or all of their herd to pasture-based systems.

In conclusion, reducing methane emissions to achieve immediate methane reductions requires a paradigm shift in California milk production from highly polluting confinement systems to humane, environmentally beneficial pasture-based systems that achieve multiple co-benefits. The State Board should not allow such a large component of the total statewide GHG inventory to escape mandatory controls, especially when the dairy industry has thus far failed to reduce emissions voluntarily. To the extent that the State Board uses financial incentives to achieve methane reductions (e.g. the Greenhouse Gas Reduction Fund), such incentives should be directed towards transition to pasture-based systems that reduce methane emissions and act as a carbon sink rather than to subsidize the use of polluting anaerobic digesters in the San Joaquin Valley. Thank you for your work to date and we look forward to working with you and other Board staff to ensure significant, equitable methane reductions from California dairies.

Sincerely,



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Center on Race, Poverty & the Environment

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