



**BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT**

ALAMEDA COUNTY

Tom Bates
Margaret Fujoka
Scott Haggerty
Nate Miley

CONTRA COSTA COUNTY

John Gioia
David Hudson
Karen Mitchoff
Mark Ross

MARIN COUNTY

Katie Rice

NAPA COUNTY

Brad Wagenknecht

SAN FRANCISCO COUNTY

John Avalos
Edwin M. Lee
Eric Mar
(Vice-Chair)

SAN MATEO COUNTY

David J. Canepa
Carol Groom
(Chair)

SANTA CLARA COUNTY

Cindy Chavez
Liz Kniss
(Secretary)
Rod G. Sinks

SOLANO COUNTY

James Sperring

SONOMA COUNTY

Teresa Barrett
Shirlee Zane

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

October 29, 2015

Richard Corey
Executive Officer
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Dear Mr. Corey:

Bay Area Air Quality Management District (Air District) staff has been following the development of the Air Resources Board (ARB) Draft Short-Lived Climate Pollutant (SLCP) Strategy with great interest. The Draft Strategy makes a compelling case for the importance of taking aggressive steps in the near-term to reduce emissions of methane, black carbon (BC), fluorinated gases and other SLCPs with high global warming potential (GWP). As noted in the Draft Strategy, in addition to directly reducing global warming in the next 2-3 decades, prompt action to decrease SLCP emissions can help to reduce climate feedback mechanisms in the Arctic and elsewhere (for example, the release of CO₂ and methane caused by the thawing of permafrost) that would otherwise further accelerate global warming, greatly complicating the effort to avoid a temperature increase in excess of 2° Celsius.

We are pleased to see that the Draft Strategy recognizes that local air districts, metropolitan planning organizations, and cities and counties can play an important role in helping to reduce SLCP emissions and implement measures described in the document. In addition to taking direct actions to reduce SLCP emissions in the Bay Area, as described below, the Air District will work with local governments in the region, especially the 60 Bay Area jurisdictions that have adopted local climate action plans, to include SLCPs in their GHG inventories and to incorporate appropriate SLCP reduction measures in their local plans.

Like ARB, the Air District has already taken actions to reduce SLCP emissions from numerous sources. For example, we have substantially reduced emissions of BC by adopting and enforcing regulations to reduce PM_{2.5} and BC from residential wood burning and commercial char-broilers. We have worked in collaboration with ARB to reduce emissions of PM_{2.5} and BC from diesel engines, by providing grants and incentives to encourage early compliance with ARB regulations and by enforcing ARB diesel regulations in Bay Area communities that are most impacted by emissions of particulates and air toxics. We have adopted regulations to control methane emissions from landfills. We are also working to insure that Bay Area facilities comply with the ARB regulation to reduce hydrofluorocarbon (HFC) emissions from commercial refrigeration systems.

The Air District is currently in the process of developing a Regional Climate Protection Strategy (RCPS) that will be presented as a key component of the forthcoming 2016 Bay Area Clean Air Plan. Following ARB's format for the Scoping Plan update adopted in 2014, we are addressing the SLCPs as a separate sector for purposes of our RCPS. ARB staff has provided valuable input to Air District staff, and participated in a stakeholder meeting that we convened in fall 2014 to provide input on addressing SLCPs in the Bay Area. We are currently working to identify measures for the RCPS to further reduce emissions of BC and methane from key sources, and we are considering potential measures that the Air District could take to reduce emissions of high-GWP gases. In developing measures to reduce SLCP emission in the RCPS, our objective is to complement and support the measures that ARB will implement pursuant to its SLCP Strategy.

In addition to developing control measures to further reduce emissions of the various SLCPs, the Air District is enhancing its technical capabilities, especially in relation to methane. To improve our GHG emissions inventory and measure trends in methane concentrations, the Air District has begun to install and operate a fixed-site GHG monitoring network with broad coverage across the Bay Area to measure ambient concentrations of methane. In addition, an Air District van will be equipped to perform source-specific emissions measurement studies downwind of the region's known methane sources (e.g., landfills, dairies, water treatment facilities), as well as other sources of interest, such as capped oil wells and natural gas distribution systems.

Air District staff endorses the overall approach to SLCP reduction described in the Draft Strategy. In particular, we strongly support the idea of reducing methane emissions by putting organic waste streams to beneficial use. Captured methane can be used to increase the supply of locally-produced biofuels. If properly managed, manure from dairy farms can be utilized as compost or fertilizer, providing beneficial soil amendment, while reducing methane emissions and avoiding adverse groundwater impacts. This type of "big-picture" thinking to address multiple issues and objectives in an integrated way will be vital to solving the sustainability challenges that we face at the state, national, and global scale.

The Draft Strategy provides an informative discussion of potential measures to reduce methane emissions from dairy and livestock operations. In developing our RCPS, the Air District will consider measures to reduce methane emissions from dairy farms in the Bay Area, most of which are small in scale. As ARB works to reduce methane emissions from manure and enteric fermentation, we encourage you to consider the opportunities and constraints that apply to small dairy operations.

The Draft Strategy does not currently address the fact that methane emissions could be decreased by reducing food waste. Studies suggest that approximately 30% of total food produced is lost or wasted during the various phases of food production and marketing.¹ Dairy products account for a significant portion of the wasted food. In addition to decreasing methane emissions, reducing food waste could help to reduce emissions of CO₂ from food production. The Air District has been collaborating with the UC Berkeley Energy Resources Group to develop a consumption-based GHG emissions inventory for the Bay Area. This inventory, which will be described in a forthcoming report, indicates that food accounts for 18% of the total GHG

¹ See, for example, *Estimating and Addressing America's Food Losses*.
<http://www.endhunger.org/PDFs/USDA-Jan97a.pdf>

footprint of an average Bay Area household. Since decreasing food waste could help to reduce emissions of both methane and CO₂, Air District staff recommends that ARB consider the idea of promoting best practices in the various phases of food production and marketing.

The Draft Strategy emphasizes the importance of reducing emissions of HFCs and other fluorinated gases. The document states that, if a rigorous international agreement to amend the Montreal Protocol to phase out HFCs is not reached at the upcoming "Meeting of the Parties" (among signatories to the Protocol) in Dubai November 2015, then ARB will consider adopting a phasedown for California that aligns with similar efforts and stringency levels in Australia, Canada, Europe, and Japan. We strongly support ARB's intention to pursue such a measure, in the event that an effective international agreement is not forthcoming.

At the workshop on the Draft Strategy in Sacramento on October 13, ARB staff noted that the "Evaluations" section of the document will be expanded and that more information regarding economic and public health impacts will be provided in the next version of the Strategy. The relationship between black carbon and public health is well documented in the literature, as summarized in the Draft Strategy. However, the document could benefit from further discussion regarding the relationship between public health and other SLCPs, such as methane and fluorinated gases.

Many states and nations look to California for leadership on climate protection. Given the importance of reducing SLCPs around the globe, we urge ARB to develop a robust and comprehensive SLCP Strategy and to move forward to implement the Strategy as expeditiously as possible. We look forward to continued collaboration with ARB on reducing SLCPs and to drawing upon the statewide SLCP Strategy to inform our efforts to reduce SLCP emissions in the Bay Area.

Sincerely,



Jack P. Broadbent
Executive Officer/Air Pollution Control Officer
Bay Area Air Quality Management District