Alameda County Waste Management Authority and Recycling Board (StopWaste.org)
Breathe California
California Resource Recovery Association
Californians Against Waste
Center for Biological Diversity
City of San Jose, Environmental Services Department
Coalition for Clean Air
Environment California
Environmental Defense Fund
Friends of the Earth
Natural Resources Defense Council
Northern California Recycling Association
San Francisco Department of the Environment
Sierra Club California
Sustainability, Parks, Recycling and Wildlife Legal Defense Fund (SPRAWLDEF)

March 27, 2009

Mary Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, CA 95814

ORIGINAL: Board Clerk
Copies: Executive Officer
Chair

RE: Waste Sector in the Low Carbon Fuel Standard

Dear Chair Nichols,

Thank you for the opportunity to comment on the proposed Low Carbon Fuel Standard. We appreciate the importance of the LCFS in achieving the goals of AB 32 and are optimistic that the standard will result in the generation of alternative fuels and vehicle technology with reduced carbon footprints. We are also strongly supportive of CARB's efforts to incorporate indirect emissions, including iLUC, into the LCFS to capture the full impacts of alternative and renewable fuels. We do, however, have two concerns with respect to the waste sector.

1. The approach to fuels developed from waste lacks balance because it does not provide a pathway to produce fuel from processes involving alternatives to landfilling organic materials (i.e. dedicated digesters).

2. The landfill gas to CNG pathway has a particularly important flaw with regard to accounting for fugitive landfill emissions and should be re-evaluated before being adopted as a fuel pathway within the LCFS.

Development of alternative fuel pathways for waste utilization is needed

Over the course of the next year, CARB will dedicate staff and resources to develop fuel pathways for LCFS compliance. These pathways determine what fuels, if any, can be qualified as low carbon fuels under the standard, and also assign full fuel cycle green house gas values. However, CARB staff has suggested that production of new fuel pathways must be initiated by industry members seeking to utilize a particular process for developing fuels. We ask that staff develop this particular pathway to help encourage alternatives to landfilling organic materials.

We ask that the Board give staff direction to develop a fuel pathway for fuels from dedicated anaerobic digesters. Without the fuel pathway development process being initiated by staff, it is doubtful that industry members will endeavor to develop a fuel pathway in the near term since the incentives to utilize

the landfill gas to CNG pathway are higher absent a pathway for use of digesters. Development of the additional pathway will provide an alternative path for waste to be used, in a manner that reduces landfilling and that further supports the multiple environmental objectives of CARB and AB 32.

We ask that additional technical review and modifications to the landfill to fuels pathway be made before final adoption of the pathway, in order to account for significant omissions in the fuel cycle accounting.

A preliminary review of the fuel pathway for landfill gas to fuels (LFG to CNG) has revealed that the lifecycle analysis proposed by CARB underestimates the emissions associated with landfill operations due to omissions in the accounting for fugitive emissions. This has likely led to an under-estimation of the carbon intensity of landfill gas based fuels. Specifically, the proposed fuel pathway departs from previous ARB assumptions and appears to conclude there are no fugitive emissions from landfills. Two important effects of this single assumption are 1) an undercounting of fuel carbon intensity leading to decreased environmental integrity of the regulation as a whole, and 2) the creation of a barrier to diverting materials from landfills by providing incentives to continue the landfilling of organics.

It is generally accepted that even landfills with comprehensive landfill gas systems capture only a portion of the gas generated from the anaerobic decomposition of waste, and estimates of capture efficiency range from 20% to above 90%. The ARB, CIWMB, and CCAR have previously followed US EPA's lead in using an average capture efficiency of 75%. However, in a break with California and federal landfill policies, the proposed pathway does not account for *any* fugitive emissions from landfills. Rather, the proposal only considers emissions after the point of collection and does not take into account for the potential additional emissions associated with 1) operating the landfill as an energy supplier as opposed to a containment system,[1] and 2) increasing deposition of waste into landfills as opposed to diversion. We ask that CARB allow for further technical review and modifications of the analysis prior to passing it as an approved fuel pathway to ensure the accounting is more consistent with general landfill accounting policies and incorporates the effects of potentially less diversion.

Under the current methodology, the LCFS attributes the lowest carbon intensity to the LFG to CNG fuel pathway. While LFG-based fuels might indeed have a low carbon intensity, it is essential that CARB use accurate carbon accounting to ensure the emissions reductions calculated from use of the fuel are real. One important result of under-accounting emissions in this fuel pathway is fewer overall emission reductions from the regulation as a whole. Second, by creating an undue benefit to the waste industry, the LCFS may create an unearned subsidy for the landfilling of organic materials – counter to the stated public policy of increasing diversion rates for organic materials. Not only do these materials have far greater direct greenhouse gas benefits when they are managed outside of landfills, increased waste utilization outside landfills can also achieve other benefits such as soil health (from composting) and reduced financial risk to the state (from decreased landfill operations).

Given the need to modify the current analysis and the need for additional review, we ask the proposed landfill gas to fuel pathway be simply adopted at a later date, analogous to other fuel pathways still under development, after additional technical review and approval by the CARB Executive Officer. In the alternative, we would ask CARB staff to modify the existing fuel pathway prior to adoption on the proposed date. The LCFS regulation is a critical regulation for the state to achieve dramatic emissions

[1] Managing a landfill for maximum energy production (through reducing vacuum pressure or recirculating liquids) can result in a net increase of fugitive emissions from the landfill surface.

reductions and must not be undercut by accounting errors out of the gate. The ARB should also prioritize the development of a fuel pathway for anaerobic digestion as soon as possible.

We look forward to working with ARB staff as the agency seeks to account for all emissions from landfill gas fuel streams and develop a comprehensive fuel pathway for dedicated digesters. Thank you for your time and consideration.

Sincerely,

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Julie Muir
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CC: Members, California Air Resources Board
Members, California Integrated Waste Management Board
Dean Simeroth, Criteria Pollutants Branch, Air Resources Board
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