March 8, 2013

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

Re: Allocation of Cap and Trade Proceeds for the Diversion of Organic Waste to Bioenergy and Composting to operate a Carbon Negative Heavy-Duty Collection Fleet

Dear Chairman Nichols:

Edgar & Associates is an engineering and lobbying firm that represents over 50 companies involved in the collection and processing of organic materials that also operate approximately 20 compositing facilities, and 30 material recovery facilities (MRFs). Our clients operate a fleet of thousands of heavy-duty collection vehicles, and are transitioning from diesel to lower carbon compressed natural gas (CNG) fuel, with plans to make our own carbon negative CNG fuel someday soon with the organic waste we collect. Edgar & Associates submits these comments on the Draft Concept Paper for the Cap-and-Trade Auction Proceeds Investment Plan. We are grateful for the Administration's leadership on climate change issues and look forward to working together to help achieve the goals of AB 32. We urge the Air Resources Board to invest cap and trade proceeds in the diversion of organic waste to bioenergy and composting, which is critical to provide many of the greenhouse gas reductions called for in the AB 32 Scoping Plan and to alleviate environmental justice impacts.

Our industry, in partnership with local government, has been instrumental in our state's efforts to attain the recycling mandate of 50% waste diversion from landfills, required by the California Integrated Waste Management Act of 1989 (AB 939), and will remain critical to the attainment of future sustainable goals of 75% recycling and the implementation of AB 32. Our client fully supports the AB 939 statutory hierarchy of reducing, recycling, composting, transformation, and safe landfilling. CRRC has been supportive and engaged throughout the AB 32 Scoping Plan development and implementation process. Anaerobic digestion and composting are at the nexus of the AB 32 Scoping Plan adopted measures where organic wastes are diverted from

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landfilling to generate renewable energy and carbon negative fuel, and where quality organic compost is produced and returned to sustainable agriculture.

Biomethane from anaerobic digesters provides renewable electricity, carbon negative fuels, combined heat and power, and renewable natural gas. It significantly reduces methane emissions from landfills and converts those emissions into clean energy and carbon negative fuels. Biomethane development is important to reduce environmental justice impacts by replacing diesel and other fossil fuels with significantly cleaner, lower carbon fuels. Given the many benefits of biomethane, we urge the Air Board to invest cap and trade proceeds in anaerobic digestion and compost facility development. Specifically, we recommend investments in the following:

- ***Reauthorization of AB 118*** to fund the California Energy Commission grant process to encourage the production and use of carbon negative fuels from organic waste, and the funding of heavy-duty fleet transition from diesel to CNG.
- ***Biomethane Investment: Food Waste to Anaerobic Digestion Technology Incentive Payment*** where the facility operator would receive a per ton incentive payment to operate an anaerobic digestion facility to accept food waste and green waste that can produce a carbon negative fuel to be used in the heavy-duty fleet that collects the organic waste.
- ***Compost Investment: Emission Reduction Credit Reimbursement (ERC) Fund*** where the compost facility operator gets funded directly for the ERC payments in a one-time reimbursement, which could cost between $1 million to $2 million per compost facility.
- ***Compost Investment: BACT Compost Technology Incentive Payment*** where the compost facility operator would receive a per ton incentive payment for handling of food waste and green waste at the existing and new compost facilities that develop covered compost systems to accept organic waste to meet best available control technology (BACT) requirements.

At the nexus of AB 32: Anaerobic digestion and composting are at the nexus of the AB 32 Scoping Plan adopted measures (as noted in Table 1 below) where commercial organic wastes are diverted from landfilling to generate renewable energy and negative carbon fuel, resulting in quality compost that is returned to sustainable agriculture.

Table 1: AB 32 Scoping Plan adopted measures for renewable energy, low carbon fuel, and high recycling (million metric tons of carbon dioxide equivalents (MMTCO2E) in 2020)

Measure No.	Measure Description	MMTCO2E Reductions
C-21	Renewable Portfolio Standard	21.3
T-2	Low Carbon Fuel Standard	16
RW-3	High Recycling/Zero Waste	
	• Mandatory Commercial Recycling (food waste recovery)	5
	• Increase Production and Markets for Organics Products	2
	• Anaerobic Digestion	2
	Total	**46.3**

- Renewable Energy: The increased use of renewable energy, from 20% in 2010 to 33% by 2020, is mandated to achieve 21.3 million metric tons of CO_2 equivalent reductions by 2020. Anaerobic digestion (AD) facilities create biomethane where typically one-third of the biomethane is converted to renewable energy to power the AD facility, with the remainder of biomethane converted to a carbon negative compressed natural gas (CNG) fuel.

- Low Carbon Fuel Standard: The Low Carbon Fuel Standard calls for a 10% reduction of the fuel intensity by 2020, where renewable CNG from an anaerobic digestion facility (using dry fermentation of food waste with green waste) has been determined by the California Air Resources Board to be minus 15 g CO2e/MJ, or carbon negative, as shown in the figure below. CalRecycle, in the recently adopted Program EIR for AD facilities, has projected the need to develop 70 AD facilities processing 50,000 tons per year, or 210 AD facilities of 20,000 tons per year to meet the AB 32 Scoping Plan requirements.

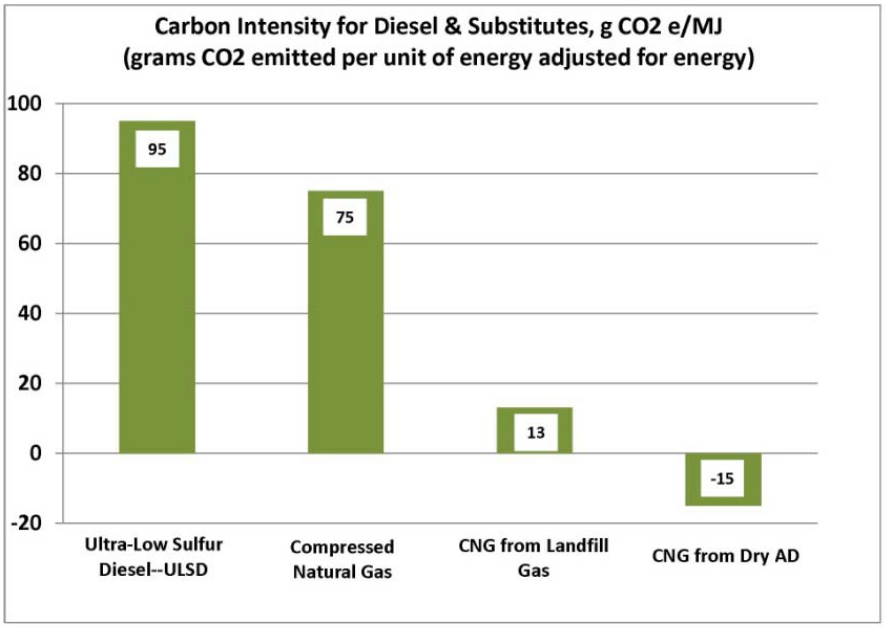
- Mandated Commercial Recycling: Five million metric tons of CO_2 equivalent reductions are required by 2020, resulting from diverting about 1.5 million tons of waste from landfilling. Commercial food waste diversion will be phased in with the development of both food and green waste composting and AD facilities, to assist jurisdictions in complying with the mandated commercial recycling regulations which became effective on July 1, 2012. CalRecycle has adopted Strategic Directive No. 6 which targets 50% of the food waste to be diverted by 2020.

- Anaerobic Digestion (AD): AD projects are expected to provide two million metric tons of CO_2 equivalent reductions by 2020; where up to 210 AD Facilities at 20,000 tons per year will be needed by 2020. Anaerobic digestion represents the a triple bottom line strategy for the AB 32 Scoping Plan adopted measures where commercial organic wastes are diverted from landfilling to generate renewable energy and carbon negative fuel, and quality organic compost is returned to sustainable agriculture.

- Compost Use: The use of compost is expected to reduce 2 million metric tons of CO_2 equivalent emissions by 2020. With air and water regulations pushing compost in-vessel, state-of-the-art food waste compost facilities are employing a covered aerated static pile (CASP) system– which is considered best available control technology (BACT) by air districts – where compost is covered and air is forced through the cover for aeration, cleansing the emissions with a biofilter prior to being released, significantly reducing volatile organic compounds (VOC) emissions (by over 80%), and minimizing odors. AD facilities produce a solid digestate after biomethane is recovered, which is typically 70% of the incoming food waste and green waste; where this digestate is a feedstock that is processed into quality compost for use in sustainable agriculture. Case studies have shown that compost use by farmers can reduce water use by up to 30% and significantly reduce the use of fertilizer. The decreased pumping of water and reduced fertilizer usage (minimizing nitrogen releases to both air and water) are key

practices for farmers to reduce greenhouse gases and promote sustainable agriculture. The use of certified organic compost reduces the use of pesticides and petroleum-based fertilizers and decreases the impacts on disadvantage communities.

Operating a Carbon Negative Fleet: There are over 15,000 refuse and recycling collection vehicles in California, with over 2,000 collection vehicles running on CNG, or about 13% of the fleet. The South Coast Air Quality Management District (SCAQMD) projects that there will be 4,500 CNG vehicles by 2020. The refuse and recycling collection fleet is rapidly transitioning to CNG that 50% of the fleet will be on CNG within the decade. The Low Carbon Fuel Standard calls for a 10% reduction of the fuel intensity by 2020, where renewable CNG from an anaerobic digestion facility (using dry fermentation of food waste with green waste) has been determined by the California Air Resources Board to be minus 15 g CO2e/MJ, or carbon negative, as shown in the figure below. CalRecycle, in the recently adopted Program EIR for AD facilities, has projected the need to develop 70 AD facilities processing 50,000 tons per year, or 210 AD facilities of 20,000 tons per year to meet the AB 32 Scoping Plan requirements. The statewide commercialization of AD facilities in this manner could yield 23.5 million diesel equivalent gallons per year, based upon feedstock consisting of a blend of 2.5 million tons per year of food waste with 1.7 million tons of green waste, or enough fuel for 1,800 CNG-fueled refuse and recycling vehicles. With over 6 million tons of food waste disposed of in 2008, the amount of renewable CNG could double to nearly 50 million diesel equivalent gallons per year, or enough for 3,500 vehicles. The organics collection industry could operate a carbon negative fleet with the deployment of AD technology where the CNG vehicle that collects the organic waste runs on the CNG generated from the organic waste it collects.



Renewable CNG Derived From Anaerobic Digestion Is Carbon Negative

Given the many benefits of biomethane and compost, we urge the Air Board to invest cap and trade proceeds in anaerobic digestion and compost facility development. Specifically, CRRC has recommended investments in the following:

- ***Reauthorization of AB 118***
- ***Biomethane Investment: Food Waste to Anaerobic Digestion Technology Incentive Payment***
- ***Compost Investment: Emission Reduction Credit Reimbursement (ERC) Fund***
- ***Compost Investment: BACT Compost Technology Incentive Payment***

Should you have any questions, please contact me at (916) 739-1200.

Sincerely,

Evan W.R. Edgar
Principal Civil Engineer

cc: Cliff Rechtschaffen, Senior Advisor to Governor Brown
Ana Matosantos, Director, Department of Finance
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