CALIFORNIA COMPOST COALITION

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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 Carbon Negative Heavy-Duty Collection Fleets

Dear Chairman Nichols:

The California Compost Coalition (CCC) is a statewide organization representing operators of permitted facilities which are involved in the processing and composting green and food materials throughout California. On behalf of these companies, we respectfully submit the following comments on the allocation of Cap and Trade proceeds for the diversion of organic waste to bioenergy and composting to operate carbon negative heavy-duty collection fleets.

CCC submits these comments as presented in the attached White Paper 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.

The compost 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. We have 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 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:

- ***Sustainable Agriculture Investment: Organic Compost Use Fund*** **-** Farmers that use compost registered for organic use by CDFA would qualify for the "Organic Compost Use Fund "to be administered by CDFA, where the farmer would be reimbursed $10/ton.
- ***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.
- ***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.
- ***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.

Sustainable Agriculture Investment: Organic Compost Use Fund

Organic compost use has been a long-term strategy of the compost industry. California Department of Food and Agriculture (CDFA) has been working to determine how compost is to be handled under new regulations developed under AB 856, which was passed in 2009 to tighten the regulation of organic fertilizers, following fraudulent activities by some liquid organic fertilizer producers. Beginning in January 2011, composters selling to Farm Use, which includes conventional agriculture, golf courses, and professional landscaping, were required to license their facilities and undergo annual inspections by CDFA. By January 2012, all products sold to organic farms required registration and review by CDFA to assure they meet state and federal organic standards. During 2012, all composters have been required to report tonnages quarterly for all materials – both in Farm and Non-Farm use – and pay $0.0015 per dollar of sales in tax. It has been estimated that one million tons of the current compost market will be registered organic input material during 2012-2103, and that organic compost supply could grow by at least 20% per year.

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 features for farmers to reduce greenhouse gases and promote sustainable agriculture. Plus, the carbon is sequestered in the soil. The use of registered organic compost reduces the use of pesticides and petroleum-based fertilizers and decreases the impacts to disadvantaged communities.

Under this proposal, farmers that use compost registered for organic use by CDFA would qualify for the "Organic Compost Use Fund "to be administered by CDFA, where the farmer would be reimbursed $10/ton. The Administration seeks feedback on programs for potential investment where the ***Sustainable Agriculture Investment: Organic Compost Use Fund*** of a $10/ton rebate would be paid to the farmers that use the organic compost to promote sustainable agriculture would require a budget amount of $12 million to $17.5 million over the next 3 years as shown in the table below.

Sustainable Agriculture Investment: Organic Compost Use Fund

Sustainable Agriculture Investment: Organic Compost Use Fund		
Budget Year	**Organic Compost Use**	**CDFA Budget**
FY 2013-2014	1,200,000 tons	$12.0 million
FY 2014-2015	1,500,000 tons	$15.0 million
FY 2015-2016	1,750,000 tons	$17.5 million

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) • Increase Production and Markets for Organics Products • Anaerobic Digestion	 5 2 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.

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

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

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

Sincerely,

Neil Edgar
Principal Civil Engineer

cc: Cliff Rechtschaffen, Senior Advisor to Governor Brown
Ana Matosantos, Director, Department of Finance
Matt Rodriquez, Secretary, California Environmental Protection Agency
Karen Ross, Secretary, Department Food and Agriculture

California Compost Coalition

WHITE PAPER
INVESTMENT OF CAP AND TRADE AUCTION PROCEEDS DIVERSION OF ORGANIC WASTE TO BIOENERGY AND COMPOSTING

CALIFORNIA
COMPOST COALITION

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February 25, 2013
Version 1.1

Executive Summary: Anaerobic digestion and composting are at the nexus of the AB 32 Scoping Plan adopted measures where organic wastes are diverted from landfilling to generate renewable energy and carbon negative fuel, and where quality organic compost is produced and returned to sustainable agriculture. The California Compost Coalition proposes the following Three-Year Investment Plan identifying programmatic investments of the Cap and Trade Auction Proceeds starting at $38 million in FY 2013-2014 by diverting an additional 600,000 of organic waste and providing 1,200,000 tons of registered organic compost to sustainable agriculture, and increasing to $62.5 million in FY 2015-2015 by diverting an additional 1,800,000 tons or organic waste and supplying 1,750,000 tons of registered organic compost to sustainable agriculture.

Compost Investment	•***VOC Emission Reduction Credit Reimbursment Fund - $15/ton*** •Natural Resources and Solid Waste Diversion •Implemented by CARB and local air districts •2013-2014 $3.0 million ***2014-2015 $4.5 million*** 2015-2016 $6.0 million
Compost Investment	•***BACT Compost Technology Incentive Payment - $10/ton*** •Natural Resurces and Solid Waste Diversion •Implemented by Cal-EPA, CARB and CalRecycle •2013-2014 $4.0 million ***2014-2015 $7.0 million*** 2015-2016 $12.0 million
Bioenergy Investment	•***Food Waste to AD Technology Incentive Payment - $20/ton*** •Low Carbon Fuel, Clean Energy, Natural Resources and Waste Diversion •Implemented by CalRecycle • 2013-2014 $4.0 million ***2014-2015 $8.0 million*** 2015-2016 $12.0 million
Bionenergy Investment	•***AB 118 Reauthorization*** •Low Carbon Fuel, Clean Energy, Natural Resources and Waste Diversion •Implemented by California Energy Commission •2013-2014 $15 million ***2014-2015 $15 million*** 2015-2016 $15 million
Sustainable Agriculture Investment	•***Organic Compost Use Fund - $10/ton*** •Natural Resources, Water Use Efficiency, Environmental Justice •Implemented by California Department of Food and Agriculture •2013-2014 $12 million ***2014-2015 $15 million*** 2015-2016 $17.5 million
Summary	•***Anaerobic Digestion and Composting are at the nexus of AB 32 policies*** •Low Carbon Fuel, Clean Energy, Natural Resources, and Waste Diversion •Implemented by Cal-EPA agencies, CDFA, and local air districts •2013-2014 $38 million ***2014-2015 $49.5 million*** 2015-2016 $62.5 million

The California Compost Coalition (CCC) is a statewide organization representing operators of private, independent facilities who are involved in the processing and composting of green and food wastes that include the diversion of organic waste from landfills to bioenergy and composting while promoting sustainable agricultural policies. CCC represents 15 permitted green waste and food waste composting facilities, and several anaerobic digestion facilities. CCC members process over 1,000,000 tons per year green waste and food waste, with major expansions underway to include more diversion of food waste and the development of anaerobic digestion facilities co-located at our composting facilities and material recovery facilities. Urban organic waste anaerobic digestion facilities are legally defined as composting, and are compatible with traditional windrow composting and covered compost systems since the digestate from anaerobic digestion – which is the remaining material after biomethane has been removed – needs to be further composted and matured to produce a quality compost soil amendment for sustainable agricultural use.

CCC hereby presents this White Paper to provide proposed details for the Investment of Cap and Trade Auction Proceeds Investment Plan for Fiscal Years 2013-2014, 2014-2015, and 2015-2016. This planning process facilitated by the Department of Finance with the California Air Resources Board is to include the examination of sustainable agriculture practices (including the development of bioenergy), and the diversion of organic waste to bioenergy and composting. CCC presents the following investment programs to be examined for funding.

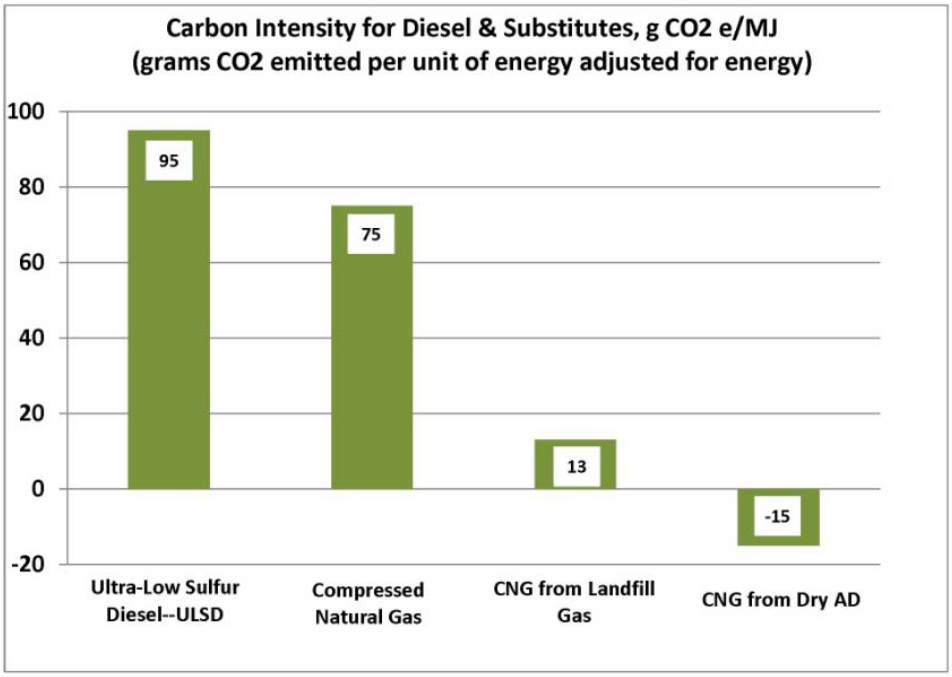
At the nexus of AB 32: Anaerobic digestion and composting are at the nexus of the AB 32 Scoping Plan adopted measures (as noted in Table 1 below) where commercial organic wastes are diverted from landfilling to generate renewable energy and negative carbon fuel, resulting in quality compost that is returned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

- 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 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.

Development of the Cap-and-Trade Auction Proceeds Investment Plan: The State of California has invited participation in three public workshops in February 2013 to provide input on the development of an Investment Plan for the Auction Proceeds from the Cap-and-Trade program that would further reduce greenhouse gases (GHGs). The Department of Finance, in consultation with the CARB and other state entities, will develop and submit to the Legislature a three-year Investment Plan for the Auction Proceeds. The Investment Plan will identify the State's GHG goals and priority programs for investment of proceeds to support achievement of those goals. The proposed State Budget for 2013-14, as highlighted in the next section, includes a brief discussion of Administration priorities for investment, emphasizing investments in the transportation and energy sectors from which large reductions in GHG emissions are possible.

In addition to the transportation and energy efficiency sectors, areas to be examined during the planning process include sustainable agriculture practices (including the development of bioenergy), forest management and urban forestry, *and the diversion of organic waste to bioenergy and composting.* In these areas, the Administration seeks feedback on programs for potential investment that complement investments in transportation and energy efficiency.

Governor's proposed 2013-2014 Budget: The Governor released California's proposed Budget 2013-2014 on January 10, 2013, with the following statement regarding the investment of Cap-and-Trade Auction Proceeds.

Reducing Greenhouse Gas Emissions through the Investment of Cap and Trade Auction Proceeds

AB 32 established California as a global leader in reducing greenhouse gas emissions (GHGs). To meet the goals of AB 32, the state has adopted a three-pronged approach to reducing greenhouse gas emissions, including adopting standards and regulations, providing emission reduction incentives via grant programs, and establishing a market-based compliance mechanism known as Cap and Trade.

The Air Resources Board (ARB) held the first of three 2012-13 auctions on November 14, 2012, resulting in $55.8 million in proceeds to the state. The auction of allowances directly allocated to independently operated electric utilities resulted in proceeds of $233.3 million, which will be credited to customers. The other two auctions will occur on February 19, 2013 and May 16, 2013. In recognition of the state's initial experience with the first auction, the Budget only addresses the expenditure of auction proceeds of $200 million in 2012-13 and $400 million in 2013-14. Total revenues from the auctions may exceed these amounts

The first plan, when completed, will prioritize programs that significantly advance the goals of AB 32. While the specific details will be developed by the Administration after receiving input through the stakeholder process, the following areas are best suited for investment. Transportation is the single largest contributor to GHGs in California (38 percent), and reducing transportation emissions should be a top priority (including mass transit, high speed rail, electrification of heavy duty and light duty vehicles, sustainable communities, and electrification and energy projects that complement high speed rail). The electricity and commercial/residential energy is the second largest contributor of GHG emissions (30 percent), and the water sector is one of the largest users of electricity in the state. Encouraging energy efficiency projects with financing incentives such as the Property-Assessed Clean Energy (PACE) program will help individuals and families who need longer timeframes and simpler terms than traditional financing to pay for home energy improvements. Programs that reduce the energy used in the supply, conveyance and treatment of water throughout the state can significantly reduce GHGs while also saving water. Other areas to be examined during the planning process include sustainable agriculture practices (including the development of bioenergy), forest management and urban forestry, and the diversion of organic waste to bioenergy and composting. The investment plan will assure benefits to disadvantaged communities.

INVESTMENT PLAN PROPOSALS

The California Compost Coalition proposes the following Three-Year Investment Plan identifying programmatic investments of the Cap-and-Trade Auction Proceeds.

1. **Compost Investment: Emission Reduction Credit Reimbursement Fund**
2. **Compost Investment: BACT Compost Technology Incentive Payment**
3. **Bioenergy Investment: Food Waste to Anaerobic Digestion Technology Incentive Payment**
4. **Bioenergy Investment: AB 118 Reauthorization for Biomethane**
5. **Sustainable Agriculture Investment: Organic Compost Use Fund**

1. Compost Investment: Emission Reduction Credit Reimbursement Fund - $15/ton

In developing composting facilities to accept food waste, facility operators are typically required to purchase emission reduction credits (ERCs) to offset volatile organic compound (VOC) emissions, with one-time costs ranging between $500,000 and $2 million. These ERC costs have been a major factor in deterring compost facility development in many air districts. Instead, green waste and food waste continue to be hauled to remote areas of the state increasing transportation emissions. The Administration seeks feedback on programs for potential investment where the ***Compost Investment: Emission Reduction Credit Reimbursement Fund*** would be an investment in building composting infrastructure where the compost facility operator would receive reimbursement on the costs of ERCs from an account managed by CARB, in collaboration with the local air districts.

The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) and the South Coast Air Quality Management District (SCAQMD) have adopted regulations for compost facilities that will require New Source Review for the permitting of new or expanded facilities, a precedent that has spread statewide wherever an air district is in non-attainment of ozone standards. Unfortunately, the New Source Review does not account for baseline emissions of food waste in landfills where fugitive emissions in the atmosphere have been documented. Composting food waste and green waste in a covered aerated static pile (CASP) system is considered to be Best Available Control Technology (BACT), with over 80% destruction of VOCs. New Source Review is required where the threshold of significance for VOCs is 4 tons per year in the SCAQMD, and 10 tons per year in the SJVUAPCD, the Bay Area Air Quality Management District (BAAQMD), and is predominant in other air districts statewide. Composting facilities utilizing CASP technology still emit significant VOCs requiring the purchase of ERCs (i.e., above thresholds), to what level is dependent on the size of the facility and the significance threshold of the local air district.

As shown in Table 2 below – for composting facilities installing and operating a CASP system which meets BACT requirements of 80% VOC reduction – a smaller facility (30,000 tons per year of organic waste) could emit from 18 to 56 tons per year (TPY) of VOC emissions; a moderate

facility (50,000 tons per year of organic waste) could emit from 30 to 93 TPY of VOCs emissions; and a larger facility (100,000 tons per year of organic waste) could emit from 60 to 186 TPY of VOC emissions.

In each case, ERCs must be purchased as offsets for the total amount of VOC emissions above the air district's threshold of significance, for the project, at costs ranging from $6,000 to $37,000 per ton.

Table 2: VOC Emission Estimates and Air District Parameters

Tons per Year of Compostable Organics	VOCs Using SJVAPCD Emission Factors (TPY)	VOCs Using SCAQMD Emission Factors (TPY)	SJVUAPCD Cost		SCAQMD Cost		BAAQMD Cost	
			TOS[1] (TPY)	ERC[2] Cost (per ton)	TOS (TPY)	ERC Cost (per ton)	TOS (TPY)	ERC Cost (per ton)
30,000	55.9	17.9	10	$21,000[3] $6,100	4	$37,000	10	$8,000
50,000	93.1	29.8						
100,000	186.2	59.6						

1. TOS = Threshold of Significance
2. ERC = Emission Reduction Credit
3. The $21,000 is the 2010 cost and the $6,100 is the 2011 cost. The other two District's ERC costs for VOCs changed very little.
4. BAAQMD requires ERC above 35 TPY – assume average emissions factors of SJVAPCD and SCAQMD

Assumptions: (1) Feedstock storage time is 2 days; (2) Overall control efficiency during active composting is 80%; (3) There are no emission controls during storage or curing

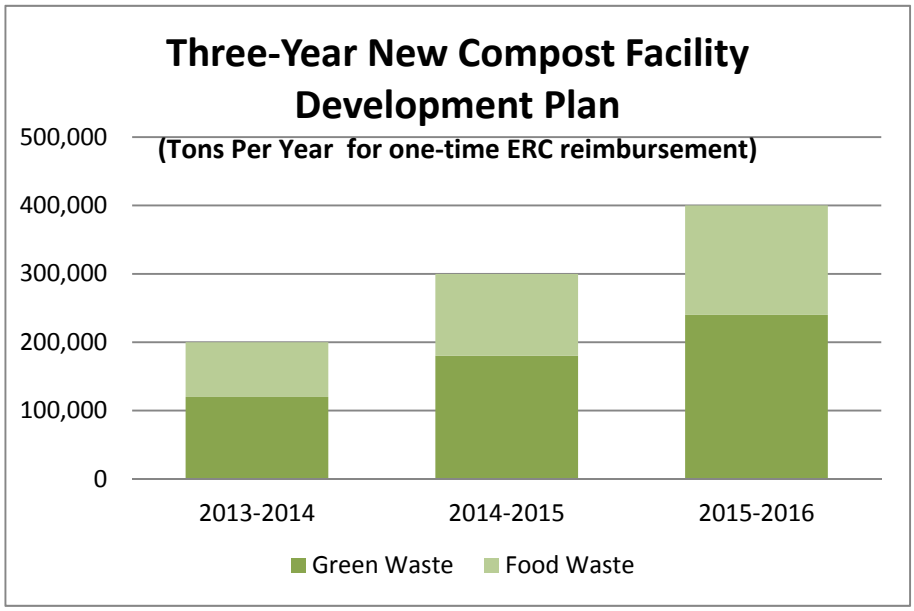
Table 3: Emission Factors per Air District

Operational Component	SCAQMD	SJVUAPCD	BAAQMD
Feedstock Storage	1.063 lbs./ton/day	0	Regulations not adopted
Composting	5.14 lbs./ton	3.83 lbs./ton	
Curing	0.57 lbs./ton	0.425 lbs./ton	

A larger compost facility (as defined in Table 2) in the SCAQMD would need to purchase $2.1 million in ERCs for VOCs; if located in SJVAPCD, the ERCs would cost $1.1 million; and if located in the BAAQMD, the ERCs would cost $700,000. A moderate compost facility in the SCAQMD would have to buy $950,000 in ERCs; if located in SJVAPCD, the ERCs would cost $500,000; and if located in the BAAQMD, the ERCs would cost $212,000. Even a small compost facility in the SCAQMD could have to buy $500,000 in ERCs.

The range of VOC ERC costs per ton of material composted varies: SCAQMD = $16-21/ton in ERC offsets, SJVAPCD $9-11/ton in ERC offsets, BAAQMD $4-7/ton in ERC offsets. The satisfy the need to develop composting infrastructure to meet the current CalRecycle mandates required by 2020, each incremental one million tons of landfill-diverted organics will range in cost from $4 million to $21 million, requiring significant investment in this fund. An average ERC cost of

$15/ton will be used to inform an investment plan for developing composting facilities in the SCAQMD and the SJVAPCD, due to the expected larger facility size required for financial viability.



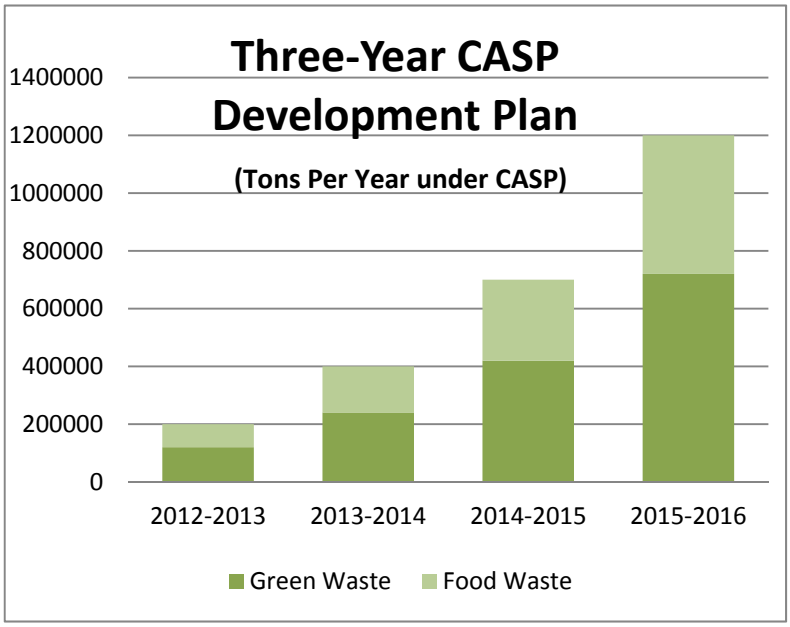
In 2011, CalRecycle released their Organics Policy Roadmap in which it was projected that 28 more composting facilities, each processing 500 tons per day (or about 3.65 million tons per year of organics) would be needed by 2020 to achieve strategic goals. The typical larger compost facility of 100,000 tons per year would typically accept up to 40% food waste (light green bar) mixed with 60% green waste (green bar), as depicted in the graphic above. With an industry projected incremental growth of adding nine large covered composting facilities over the next three years (200,000 tons of new capacity in 2013-2014, 300,000 tons of new capacity in 2014-2015, and 400,000 tons of new capacity in 2014-2015), compost facility operators would need to be reimbursed for the purchase of ERCs to operate an average of $15/ton of organic material processed, a one-time reimbursement. Once ERCs are purchased, the compost operators are entitled to handle the permitted tonnage amount on an annual basis. This would be considered a one-time cost to purchase ERCs for new or expanded compost facilities.

CCC proposes the following three-year Investment Plan for the ***Compost Investment: Emission Reduction Credit Reimbursement Fund*** based upon bringing 200,000 tons of composting capacity on-line and increasing up to 400,000 per year where the compost facility operator gets directly funded for the ERC payments in a one-time reimbursement, as shown in Table 4. This plan will accommodate the diversion of 540,000 tons of green waste and 360,000 tons of food waste to newly permitted composting facility capacioty over the next three years.

Table 4: Compost Investment: Emission Reduction Credit Reimbursement Fund

Compost Investment: Emission Reduction Credit Reimbursement Fund		
Budget Year	**Organic Tons Composted**	**Budget at $15/ton ERC**
FY 2013-2014	200,000	$3.0 million
FY 2014-2015	300,000	$4.5 million
FY 2015-2016	400,000	$6.0 million

2. Compost Investment:
BACT Compost Technology Incentive Payment - $10/ton



In CalRecycle's Organics Policy Roadmap it was projected that 28 more composting facilities, each processing 500 tons per day (or about 3.65 million tons per year of organics) would be needed by 2020 to achieve strategic goals, as previously discussed.

There could be approximately 200,000 tons of compost using CASP technology by the end of 2012-2103 as shown on the adjacent graphics that would be eligible for a technology incentive payment. With an industry projected incremental growth of adding just nine large covered composting facilities in the next three years; (200,000 tons of new capacity in 2013-2014, 300,000 tons of new capacity in 2014-2015, and 400,000 tons of new capacity in 2014-2015). Under this plan, compost facility operators would be provided an incentive payment of $10/ton of organic material processed for using CASP that qualifies as BACT. The fund would be managed by Cal-EPA with the CARB and the local air district verifying BACT.

Under this proposal, existing and new compost facilities that have a obtained Solid Waste Facility Permit concurred with by CalRecycle, comply with Waste Discharge Requirements approved by their local Regional Water Quality Control Board, and that have installed CASP systems meeting local air district requirements would qualify for the "BACT Compost Technology Incentive Payment".

The SJVUAPCD (Rule 4566) and the SCAQMD (Rule 1133.3) have adopted regulations for composting facilities, require New Source Review for new or modified permits, and require new (or expanding) facilities to employ CASP systems. In developing composting facilities to accept food waste, in most areas of the state the facility operator would need to deploy state-of-the-art, CASP technology which has been considered to be BACT. The incremental cost to transition from a conventional open windrow technology to a CASP system has been estimated to range between $10 and $16 per ton (as determined by SJVUAPCD staff in their Cost Effectiveness Analysis for the development of Rule 4566 – Organic Materials Composting Operations, adopted August 18, 2011; excerpt shown in Table 5 below).

Table 5: SJVUAPCD – Rule 4566 Cost Effectiveness Analysis

Table 4: Engineered Controls Costs	
Feedstock Throughput (wet ton/yr)	**Cost Averages by Throughput ($/wet ton)**
25,000	$16.03
50,000	$13.41
100,000	$11.13
200,000	$9.71

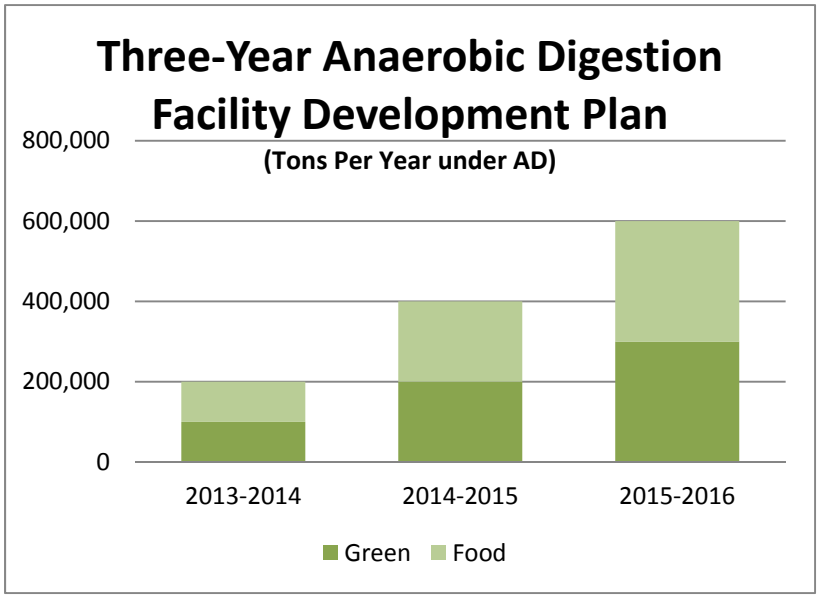
The Administration seeks feedback on programs for potential investment where the ***Compost Investment: BACT Compost Technology Incentive Payment*** as shown in Table 6 below, proposes a conservative $10/ton incentive payment to the existing and new compost facility operators that develop CASP systems to accept food waste and green waste to meet BACT requirements. By 2015-2016, 1.2 million tons of organic waste could be diverted from landfilling with incentivized compost facility development.

Table 6: Compost Investment: BACT Compost Technology Incentive Payment

Compost Investment: BACT Compost Technology Incentive Payment		
Budget Year	**Organic Tons Composted**	**Budget at $10/ton for CASP**
FY 2013-2014	400,000	$4.0 million
FY 2014-2015	700,000	$7.0 million
FY 2015-2016	1,200,000	$12.0 million

3. Bioenergy Investment: Food Waste to AD Technology Incentive Payment - $20/ton

Anaerobic digestion represent the triple bottom line 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 where quality organic compost that is returned to sustainable agriculture. CalRecycle released the Final Program EIR for Anaerobic Digestion Facilities where it was assumed that there will need to be 70 AD facilities processing 50,000 tons per year (or 200 tons per day) of organic waste by 2020 to achieve state goals, which would divert about 3.5 million tons per year of organic material and avoid 2 MMTCO2e of GHGs as adopted in the AB 32 Scoping Plan. Assuming a ratio of 40% food waste to 60% green waste in a dry fermentation process, 1.5 million tons of food waste would need to be recovered in 2020.



Developers of AD Facilities are projecting tip fees of $60/ton to $80/ton, much more expensive than windrow composting and CASP composting technology. The incremental costs to develop AD facilities instead of a conventional open windrows or CASP systems is estimated to range between $30/ton to $50/ton. Landfill tip fees average $30/ton to $40/ton statewide and are dropping, where over 5 million tons of food waste is being buried. To develop an incremental amount of 200,000 tons per year of new AD processing to come on-line starting 2013-2014 (as shown in the graphic above), AD facility operators would need to be provided an incentive payment of a conservative $20/ton of organic material processed for employing AD technologies instead of landfilling. This fund would be managed by CalRecycle.

Under this proposal, AD facilities must possess a Solid Waste Facility Permit, concurred with by CalRecycle, to handle food waste, comply with Waste Discharge Requirements approved by their local Regional Water Quality Control Board, and have the necessary Authority to Construct permits from the local air districts, in order to qualify for the "Food Waste to Anaerobic Digestion Technology Incentive Payment".

The Administration seeks feedback on programs for potential investment where the ***Compost Investment: Food Waste to Anaerobic Digestion Technology Incentive Payment*** of a conservative $20/ton would provide an incentive payment to the AD facility operator to develop AD technology to accept food waste and green waste, on a recurring annual basis per the amount of tons processed during that year as shown in Table 7 below. By 2015-2016, 300,000 tons of food waste and 300,000 tons of green waste could be diverted from landfilling, producing enough biomethane to fuel a 500 vehicle carbon negative heavy-duty fleet.

Table 7: Compost Investment: Food Waste to Anaerobic Digestion Technology Incentive Payment

Compost Investment: Food Waste to Anaerobic Digestion Technology Incentive Payment		
Budget Year	**Organic Tons Composted**	**Budget at $20/ton for AD**
FY 2013-2014	200,000	$4.0 million
FY 2014-2015	400,000	$8.0 million
FY 2015-2016	600,000	$12.0 million

4. Bioenergy Investment: AB 118 Reauthorization for Biomethane

AB 118 funding provides about $100 million annually to the California Energy Commission for projects that reduce greenhouse gas emissions and promote fuel diversity, where biomethane projects have been funded by AB 118 at an average of $15 million per year. Unless reauthorized, AB 118 and its programs will sunset. The California Compost Coalition supports the reauthorization of the AB 118 funds. 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.

The Administration seeks feedback on programs for potential investment where the ***Bioenergy Investment: AB 118 Reauthorization for Biomethane*** reauthorizing the AB 118 investment by CEC with available grant funding to biomethane projects to generate carbon negative CNG atup to $15 million per year, as shown in Table 8 below.

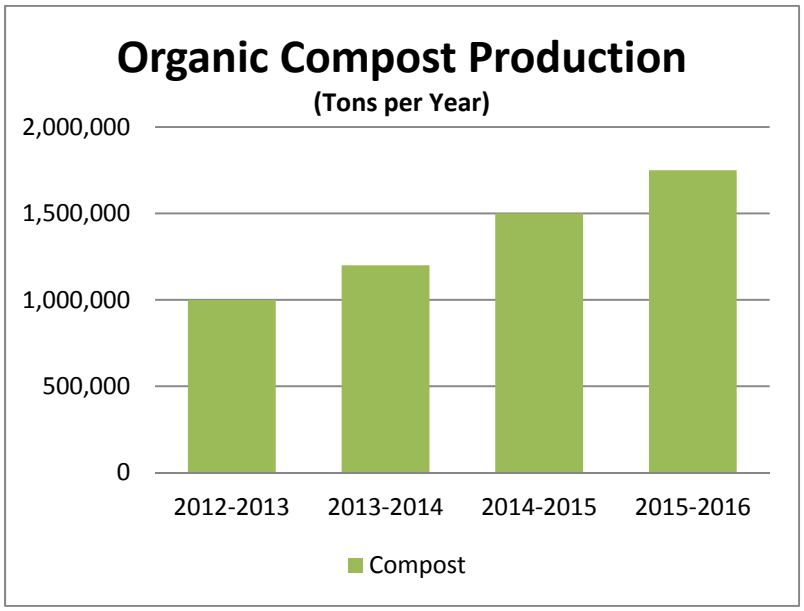
Table 8: Bioenergy Investment: AB 118 Reauthorization for Biomethane

Bioenergy Investment: AB 118 Reauthorization for Biomethane		
Budget Year	**Organic Tons Digested**	**CEC Grant (50% match)**
FY 2013-2014	120,000	$15.0 million
FY 2014-2015	120,000	$15.0 million
FY 2015-2016	120,000	$15.0 million

5. Sustainable Agriculture Investment: Organic Compost Use Fund - $10/ton

The California Department of Food and Agriculture (CDFA) has been working to determine how compost is handled using new regulations developed under AB 856, which was passed in 2009 to tighten the regulation of organic fertilizers, following fraudulent activities by some liquid organic fertilizer producers. Beginning in January 2011, composters selling to Farm Use, which includes conventional agriculture, golf courses, and professional landscaping, were required to license their facilities and undergo annual inspections by CDFA. By January 2012, all products sold to organic farms required registration and review by CDFA to assure they meet state and federal organic standards. During 2012, all composters have been required to report tonnages quarterly for all materials – both in Farm and Non-Farm use – and pay $0.0015 per dollar of sales in tax. It is estimated that one million tons of current compost production will be registered organic input material during 2012-2013, and that organic compost supply could grow by at least 20% per year.

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 features for farmers to reduce greenhouse gases and promote sustainable agriculture. Plus, the carbon is sequestered in the soil. The use of registered organic compost reduces the use of pesticides and petroleum-based fertilizers and decreases the impacts to disadvantaged communities.



Under this proposal, farmers that use compost registered for organic use by CDFA would qualify for the "Organic Compost Use Fund", to be administered by CDFA, where the farmer would be reimbursed $10/ton.

The Administration seeks feedback on programs for potential investment where the ***Sustainable Agriculture Investment: Organic Compost Use Fund*** of a $10/ton rebate would be paid to the farmers that use the organic compost to promote sustainable agriculture, as shown in Table 9 below.

Table 9: Sustainable Agriculture Investment: Organic Compost Use Fund

Sustainable Agriculture Investment: Organic Compost Use Fund		
Budget Year	**Organic Compost Use**	**CDFA Budget**
FY 2013-2014	1,200,000 tons	$12.0 million
FY 2014-2015	1,500,000 tons	$15.0 million
FY 2015-2016	1,750,000 tons	$17.5 million