March 4, 2019

Ms. Gwen Huff  
Materials Management and Local Assistance Division  
California Department of Resources Recycling and Recovery  
CalRecycle  
1001 I Street  
Sacramento, CA  95814  

Re: Comments on Proposed Regulations to Implement SB 1383  

Dear Ms. Huff:

I am writing on behalf of the Bioenergy Association of California’s more than 70 members to provide several recommendations on CalRecycle’s proposed regulations to implement SB 1383. BAC strongly supports the inclusion of biomethane procurement in the proposed regulations, but urges CalRecycle not to limit eligible procurement to compost and transportation fuel only. In addition, BAC urges CalRecycle not to limit eligible diversion technologies to compost and anaerobic digestion, which excludes the majority of the organic landfill waste stream. Specifically, BAC recommends the following changes to the regulations, described in more detail below:

1. The regulations should not limit bioenergy procurement to vehicle fuel use alone.
2. The regulations should include all eligible conversion technologies rather than limiting procurement to anaerobic digestion and compost.
3. The regulations should explicitly incentivize projects that produce both bioenergy and compost as those projects will provide far greater methane reductions than either bioenergy or compost alone.
4. The regulations should include state procurement as well as local government procurement.
5. The regulations should clarify that diverted organic waste projects built prior to adoption of the regulations will qualify for diversion credit.

BAC represents more than 70 public agencies, local governments and private companies working to convert organic waste to energy in California. BAC’s members include the California Refuse Recycling Council, California Association of Sanitation Agencies, and many individual solid waste agencies and waste haulers. BAC also represents many of the bioenergy technology providers, investors and experts in this field.
BAC urges CalRecycle to revise the proposed regulations in the ways described below.

1. **Article 12 on Procurement Should Include All End Uses of Biomethane and Biogas, including Electricity, Combined Heat and Power, and Pipeline Biogas.**

While BAC strongly supports the inclusion of RNG in the SB 1383 regulations, we urge CalRecycle not to limit its application to vehicle fuels. Biomethane and biogas can also be used to produce electricity, combined heat and power, renewable hydrogen for fuel cells, pipeline biogas, heating, cooling, industrial purposes, and other end uses. There is no reason to restrict the permissible end use of biomethane and biogas to vehicle fuels when individual projects’ locations, access to pipelines or transmission lines, proximity to vehicle fleets, and other factors will determine what is the most beneficial and cost-effective end use of the RNG.

Both the 2030 Climate Scoping Plan and the Short-Lived Climate Pollutant Reduction Strategy call for the use of biomethane from diverted organic waste, not just to produce vehicle fuel, but for pipeline injection, electricity generation, and other end uses as well. The California Air Resources Board recognized the wide range of beneficial end uses in the state’s Short-Lived Climate Pollutant Strategy, which states that:

> “The State's organic waste should be put to beneficial use, such as for soil amendments/compost, electrical generation, transportation fuel, and pipeline-injected renewable natural gas. Organic wastes converted to biogas could supply enough renewable natural gas for about 2 million residential units. Practical solutions must be developed and implemented to overcome barriers to waste gas utilization for pipeline injection and grid interconnection.”

The California Council on Science and Technology, in a report prepared for the California Public Utilities Commission, also found that:

> “the greenhouse gas impacts of biomethane injected into a pipeline and used for transportation are identical to the greenhouse gas impacts of biogas used for any other nominal end-use which displaces natural gas.”

In other words, biomethane use is equally beneficial from a climate standpoint, whether it is used for vehicle fuel or to generate power or other energy end uses. There is no justification in science or in statute, therefore, to limit its procurement under SB 1383 to vehicle fuel use only. And, in fact, that may make it more expensive and less cost-effective in some locations where use onsite for electricity, combined heat and power, or pipeline injection may be preferable.

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BAC urges CalRecycle to revise Article 1 and Article 12 in the following ways to include additional energy procurement opportunities from diverted organic waste. The suggested conversion factors are based on metrics from the U.S. Department of Energy.\(^3\) BAC’s proposed additions are in bold and underlined.

### A. Article 1 – Definitions

Add the following definition:

“**Renewable Electricity** is electricity which is generated from diverted organic waste using anaerobic digestion or conversion technologies consistent with Public Resources Code section 40106.

### B. Article 12 – Procurement

Add the following:

(f) For the purposes of this article, the recovered organic waste products that must be procured are:

1. Compost.
2. Renewable transportation fuel
3. **Renewable electricity and combined heat and power**
4. Pipeline biogas that meets the requirements of Health and Safety Code section 25421.

(g) The following conversion factors shall be used to convert tonnage in the annual recovered organic waste product procurement target for each jurisdiction to equivalent amounts of recovered organic waste products:

1. One ton of organic waste in a recovered organic waste product procurement target shall constitute:
   - (A) 19 diesel gallon equivalents, or “DGE,” of renewable transportation fuel.
   - (B) 0.58 tons of compost.
   - (C) 25.605 standard cubic feet of biomethane for pipeline injection
   - (D) 25.605 kilowatt hours of renewable electricity.

### 2. The Proposed Regulations Should Include All Eligible Conversion Technologies.

In several places, the proposed regulations limit eligible conversion technologies to compost and anaerobic digestion, which excludes the conversion of wood and other cellulosic waste that comprises the majority of the organic waste going to landfills. There is no legal or scientific justification for this, and very good policy reasons to broaden the definitions of eligible conversion technologies. As CalRecycle’s own data shows, a significant portion – likely the majority – of organic landfill waste is wood and

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\(^3\) [https://afdc.energy.gov/fuels/equivalency_methodology.html](https://afdc.energy.gov/fuels/equivalency_methodology.html).
construction waste that is not digestible, meaning it is not well suited to anaerobic digestion or compost. In fact, many of the materials included in the proposed definition of “organic waste” (proposed definition 46) are non-digestible. That cellulosic waste is, however, eligible for diversion credit under Public Resources Code section 40106 if it is converted using combustion or non-combustion thermal technologies. There is no justification under state law to exclude a diversion method that is currently authorized by statute to convert the cellulosic portion of the organic waste stream.

The proposed regulations themselves recognize the eligibility of biomass conversion in Article 2, section 18983.1, which defines what constitutes landfill diversion and includes PRC section 40106. It is internally inconsistent, therefore, to recognize that biomass conversion is an eligible diversion technology, but not to allow procurement of biogas from that biomass conversion to qualify.

BAC urges CalRecycle, therefore, to revise the proposed regulations in at least two places to expand the list of eligible conversion technologies.

A. Article 1 – Definitions

(62) “Renewable transportation fuel” means fuel derived from renewable gas from organic waste that has been diverted from a landfill and processed at either (a) an in-vessel digestion facility that is permitted or otherwise authorized by Title 14 to recycle organic waste, or (b) converted pursuant to Public Resources Code section 40106.

B. Article 2 – Section 18983.1

(6) Land application, as defined in Section 17852(a)(24.5) of this division subject to the following conditions: (A) Green waste or green material shall meet the definition of Section 17852(a)(21) and shall have been processed at a solid waste facility, as defined by Section 40194 of the Public Resources Code. (B) Biosolids shall:
1. Have undergone anaerobic digestion or composting, as defined in Part 503, Title 40 of the Code of Federal Regulations, Appendix B, or biomass conversion pursuant to Public Resources Code section 40106, and,
2. Meet the requirements in Section 17852(a)(24.5)(B)(6) of this division for beneficial reuse of biosolids.
(C) Digestate shall:
1. Have been anaerobically digested at an in-vessel digestion operation or facility, as described in Sections 17896.8 through 17896.13, or converted to biochar through an eligible conversion process pursuant to Public Resources Code section 40106; and,
2. Meet the land application requirements described in Section 17852(a)(24.5)(A).
3. Have obtained applicable approvals from the State and/or Regional Water Quality Control Board requirements.
3. **CalRecycle Should Encourage Projects that Produce Both Bioenergy and Compost.**

The purpose of SB 1383 is to reduce short-lived climate pollutant (SLCP) emissions, including methane from organic waste. BAC urges CalRecycle, therefore, to encourage projects that produce both energy and compost as they will provide far greater SLCP reductions than compost alone. The science is clear that converting diverted organic waste to bioenergy and compost provides the greatest greenhouse gas reductions of any end use. The State of Oregon’s Department of Environment reviewed 147 separate studies comparing the climate, water, energy and soil benefits of different alternatives to landfilling food waste, and determined that bioenergy plus compost provides 3.5 times greater greenhouse gas reductions than compost alone.\(^4\)

While each project will differ, in most cases, CalRecycle should encourage projects that produce bioenergy and then compost the remainder, in order to maximize SLCP reductions from diverted organic waste, which is the best way to meet the requirements of Health and Safety Code section 39730.6.

4. **CalRecycle Should Include State Procurement of Bioenergy and Compost from Diverted Organic Waste.**

BAC supports the comments of other parties that recommend the proposed regulations be broadened to include state procurement and other procurement in addition to local governments. This will help to achieve the requirements of SB 1383 in the most expeditious and cost-effective manner.

5. **The Proposed Regulations Should Explicitly Authorize Diverted Organic Waste Projects that Were Constructed Prior to Adoption of the Regulations.**

To avoid ambiguity, the proposed regulations should explicitly grandfather eligible bioenergy and compost projects constructed prior to adoption of the regulations. The proposed regulations do not explicitly do so now and it is important to ensure that early adopters of organic waste diversion projects are not penalized.

Thank you for your consideration of these comments.

Sincerely,

Julia A. Levin

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\(^4\)“Evaluation of Climate, Energy, and Soils Impacts of Selected Food Discards Management Systems,” Prepared for the State of Oregon Department of Environmental Quality, 2014, at page iii. Table ES-2 shows that bioenergy plus composting reduces GHG emissions by .17 kg CO\(_2\)e/kg of food waste while compost alone only reduces GHG emissions by .05 kg CO\(_2\)e/kg of food waste.
Executive Director