

ORGANIC WASTE REDUCTION ACTIONS

January 27, 2021

In 2016, California passed [Senate Bill 1383 Short-Lived Climate Pollutants](#) that requires all jurisdictions to ensure their waste transfer/processing facilities and operations [increase diversion away from landfills of organic waste](#), [recover edible food](#), and [purchase recovered organic waste products such as compost, mulch, biofuels and paper](#).¹ California must divert 50% of organic² waste landfill disposal by 2020, and 75% by 2025. In addition, by 2025, edible food recovery must be increased by 20% for distribution to people in need. The state as a whole didn't meet the 2020 target. In 2022, enforcement will start, penalties for noncompliance can be assessed by the California Department of Resources Recycling and Recovery (CalRecycle).



Besides equity issues, organic waste contributes to many environmental problems:

- Organics decompose in landfills releasing methane emissions of which a sizable fraction escape.³ According to [CalRecycle](#), methane is “a short-lived climate super pollutant 84 times more potent than carbon dioxide and a major contributor to climate change.”
- Wasting food means wasting the water used to produce it, and the energy used to produce, transport and dispose it, as well as the water and air pollution caused by these activities.

Sierra Club California supports jurisdictions to act individually and partner with each other and form regional Organic Waste Reduction Campaigns with three outcomes:

- **Feed the Hungry**
- **Conserve Natural Resources**
- **Slow Down Climate Change**

¹ California Code of Regulations Article 6.0. Transfer/Processing Operations and Facilities Regulatory Requirements.

² Note that “organic” in this material refers to waste that is of biological origin, it does not refer to “certified organic foods.”

³ [California Air Resources Board reports 8.63 million tons](#) CO_{2eq} annually escape from CA landfills.

LOCAL GOVERNMENT ACTIONS:

1. Incorporate organic waste diversion as a **multi-benefit initiative** including feeding hungry people, producing clean energy and healthy soil, reducing climate and air pollution.⁴
2. Immediately develop **food recovery programs**, which are especially important during the current socioeconomic crisis:
 - a. Support and fund programs and organizations that rescue edible food and fight food insecurity.
 - b. Collaborate with neighboring cities and county on public education programs to prevent and reduce food waste in businesses and homes.
3. Adopt strong **ordinances for rapid reduction of organic waste**, including but not limited to:
 - a. Implement source separated collection programs with at least three containers: organic waste, recyclables, and trash.
 - b. Develop zero waste goals and implementation plans.
4. Implement programs to **reduce contamination** of waste stream and increase recovery rates of all recyclables and all organics.
 - a. Launch public education campaigns financed by raising collection fees as authorized by SB 1383.
 - b. Educate people, and support home and community composting that doesn't generate methane.
 - c. Regulate the use of pesticides and herbicides that can contaminate greenwaste.
 - d. [Regulate the use of single-use foodware that is plastic or contains PFAS](#) (commonly known as "forever chemicals").
5. Immediately adopt **procurement policies** that follow the State's [Environmentally Preferred Purchasing](#) guide, and conduct public education on appropriate compostable products that support organics diversion programs.
6. Require anaerobic digestion and compost facilities report results of regular **surveys for methane leaks**.
7. Regularly and prominently post **progress reports** online documenting the status of their efforts on reducing contamination, increasing recovery rates, diminishing methane from all facilities including landfills, purchasing of recycled products, etc.



SB 1383 IN ACTION JURISDICTION REQUIREMENTS

Maintain Records and Report to CalRecycle

Recordkeeping Requirements:

- Organic Collection Services
- Hauler Program
- Contamination Minimization
- Waivers
- Education & Outreach
- Edible Food Recovery Program
- Recycled Organic Waste Procurement
- Recycled Paper Procurement
- Commercial Edible Food Generators
- Jurisdiction Inspection & Enforcement

CalRecycle

SB 1383 implementation not only will cut greenhouses by four million tons annually, but is also projected to generate \$17 billion in economic benefits and create 4,500 temporary and 11,700 permanent jobs.

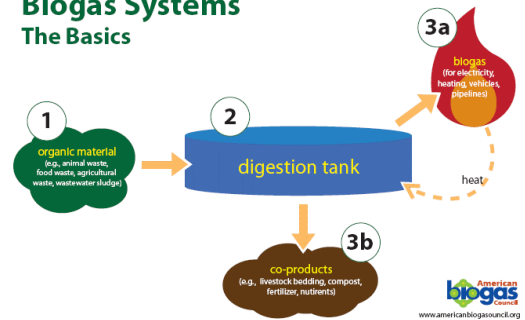
⁴ Jurisdictions must oppose any efforts to delay or derail the implementation of SB 1383.

ADDITIONAL INFORMATION:



Credit: CR&R Environmental Services

**Biogas Systems
The Basics**



Credit: American Biogas Council

Anaerobic digestion (AD) uses anaerobic bacteria to digest the organics in the absence of oxygen (in a completely closed system) and produce methane (similar to the process that produced fossil natural gas millions of years ago) plus CO₂. After the digestion, there remains a liquid and solid digestate full of high quality nutrients useful as compost, soil amendment, or liquid or dry fertilizer.



Credit: Central Contra Costa Solid Waste Authority dba RecycleSmart

Composting uses different aerobic bacteria to digest the organics in the presence of oxygen, which does not produce methane (but does release an amount of CO₂ similar to that produced in AD). The digestion produces a solid compost, which can be used as a soil amendment or dry fertilizer. However, if the composted material is wet (such as food waste), it needs considerable energy to power fan-blown air to constantly circulate through the compost pile or windrow to keep the anaerobic bacteria from digesting the food and releasing methane.⁵

Soil amendments from organic waste streams in California represent a potential \$200-400 million market in California, exceeding the likely value of energy products from the resource.⁶

Both AD and composting can be done including wastes from humans and industry, such as sewage wastewater sludge, but in that case the resulting fertilizer may have contaminants including heavy metals, pharmaceuticals,⁷ etc., which can make it unusable on food crops and reduce its profitability. So it is preferable to process food waste and green waste separately from sludge to produce compost suitable for organic farming and gardening.

⁵ Production of large amounts of methane from a composting facility in the Bay Area was observed in 2020 by planes from the Jet Propulsion Laboratory

⁶ CA [Short-Lived Climate Reduction Strategy \(2017\)](#) p. 31.

⁷ A recent study of composting examined its ability to break down 10 pharmaceutical and personal-care product residues in biosolids collected from a wastewater treatment plant in San Diego. [Fatih Büyüksönmez](#), of San Diego State University's Department of Civil and Environmental Engineering, found that composting for 45 days reduced residues of 9 out of 10 products by at least 85 percent.