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California Gears Up for a New Composting Law to Cut Methane Emissions and Enrich Soil

Local governments will make compost more accessible for farmers, helping them retain water and fight drought. But it's not clear that cities and private waste management companies can keep up with all of the green waste.

By Grace van Deelen June 1, 2022



Wednesday, Dec. 1, 2021. Credit: Leonard Ortiz/MediaNews Group/Orange County Register via Getty Images

California's jurisdictions have begun reducing organic wastes under a new composting law that takes effect in 2025, changing the landscape of waste management and making compost more accessible to farmers and cities alike.

Senate Bill 1383, passed in 2016 to curtail emissions of methane and other "super pollutants," requires local governments in California to reduce the amount of green waste (food scraps and yard trimmings) sent to the landfill by 75 percent before 2025.

The increase in compost volume, farmers say, will make using it less expensive and could help improve climate resiliency on California farms in the face of more frequent droughts. However, it remains to be seen whether cities and private waste management companies can keep up with the increasing volume of green waste.

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Dan Gearino's habit-forming weekly understand the energy transformatic world. When green waste like food scraps and yard trimmings are sent to the landfill along with other trash, they rot, producing methane, a greenhouse gas about 80 times more potent than carbon dioxide over a 20-year period. But when such organic waste is sent to composting facilities instead of landfills, that methane can be captured and used as "biogas," an energy source, rather than being released into the atmosphere.

After the biogas has been used to power trucks or provide electricity, compost companies sell the remaining organic matter to farmers, who apply it to their crops.

Returning organic matter back to the soil as compost introduces important nutrients that boost soil health and improve crop yield. Mike Barrett, who works at Casbar Farms in Dixon, California, said his farm uses compost mainly for the microbial benefits. "Once we get that microbial life established, we can minimize the amount of fertilizer we put out," he said, adding that Casbar farms has been able to decrease its fertilizer applications by about half.

Using compost can ensure long-term soil health on a farm, and the nutrients in compost allow farmers to buy less fertilizer and other inputs, said Bob Schaffer, a farmer and agronomist. "Compost has such a strong effect on everything we do with the soil," Schaffer said.

But using compost for farming has another important benefit—it helps farmers reduce their water usage.

Introducing more organic material into soil via compost helps soil retain water, and cools soil temperature. Additionally, soil with more organic material has a higher infiltration rate, meaning that water moves more quickly through it and plants use less energy to take up that moisture. Composted soil holds water more effectively, too, meaning that farmers can water their crops less often. Calkecycle, a California's agency that oversees waste management.

"It's not like I'm only going to need 25 percent of my water," said Barrett. "It's not major, but every little bit helps."

California is experiencing its second extreme drought in a decade. According to the National Drought Mitigation Center, most of California is currently experiencing "severe" to "exceptional" drought, and in April, Southern California officials declared a water shortage emergency.

The availability and cost of water is a limiting factor to growing, according to Cody Cain, head of marketing for organics recycler Agromin. As climate change continues to worsen, making extreme droughts and dry weather more common, farmers will have to continue to find ways to adapt, and compost is one "critical" strategy, said Schaffer.

Schaffer and others working in the farming industry hope that SB 1383 will drive the price of compost down and enable more farmers to use it, ultimately improving drought resilience across the state.

Organics recycling companies like Agromin and Recology, which operates eight composting facilities in California, Oregon and Washington, are hoping to be part of the solution as well. The law's requirements are expected to cause a huge increase in the volume of compost moving through these facilities that then becomes available to farmers in the state. In addition to helping these companies expand their services, the influx of green waste will lead to water-saving benefits, said Robert Reed, a representative for Recology.

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However, jurisdictions are struggling with the expenses and logistics involved in diverting green waste from the landfill in the first place. SB 1383 is an unfunded mandate, meaning that jurisdictions are fined if they cannot comply even though they do not receive funding to implement the law.

As a result, city governments are expected to fund outreach, education and new avenues for waste diversion through existing budgets or grants. "It all takes money," said Marissa Garin, the management analyst for the City of South San Francisco's Public Works Department. "Jurisdictions are all trying to figure it out."

One of the biggest tasks involves educating residents about how to sort their waste properly, according to Kristina Perrigoue, a representative for Irvine in Southern California. "Most residents are accustomed to putting their food waste in with their other trash, or putting their food waste down their garbage disposal in their kitchen sink," she said in a statement.

Pasadena, for example, is hoping to change waste-sorting behavior by providing residents with new backyard compost bins and holding workshops on the benefits of compost, according to the city's Environmental Programs Manager, Gabriel Silva. "It's something that's going to take time for our residents," he said. "We're basically telling them to do something very different than they were before."

Another requirement cities are dealing with is a provision in the law that requires them to buy back a significant portion of the compost created from their green waste—sometimes thousands of tons per year. That compost, said Silva, can be used in parks, planting beds and other landscaped areas, or can be sold or given back to city residents. Cain said this procurement requirement could help cities save on their water bills, too, incentivizing the use of compost within city boundaries.

But Garin said that there's just "no way" the City of South San Francisco

South San Francisco to farmers in the region. "We're reaching our target at the same time, but also we're helping the farmers use that compost," she said.

Teresa Montgomery, the sustainability manager for South San Francisco's waste hauler, Scavenger Company, said that while there are numerous environmental benefits to the new compost requirements, the state government is "leaning heavily" on local governments. "There's good things about it... but there's definitely major challenges," she said. If cities can get the funding necessary to meet requirements, though, the climate benefits will come.

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