

*Design and permitting by SCS Engineers*

## County floats \$13.6M composting facility to help cut methane from landfills

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A micro-pore structure made by Gore allows water vapor, air and carbon dioxide to escape from composting operations. Meanwhile, the fabric captures other gaseous materials including volatile organic compounds and ammonia, which are then recycled back into the composting process and broken down by microorganisms.

Image courtesy of California Department of Resources Recycling and Recovery

Kern County has proposed a \$13.6 million operation next to the Shafter-Wasco Landfill that would take in 400 wet tons per day of organic waste and convert it to compost as a way of cutting methane emissions.

The project would deploy a micro-pore fabric to control dust, ammonia and volatile organic compounds commonly emitted during composting of waste from orchards, vineyards, discarded wood, manure and urban landscaping.

If it receives final approval after ongoing public review, and opens as planned in October 2024, the operation would be a big step toward helping Kern comply with a state mandate for reducing the volume of green waste it sends to landfills.

The operation's output may be used as a non-emitting landfill cover, though the bigger hope is that much of the compost will be sold to local residents for gardening purposes.

"We're very excited about that part because that is the full-circle recycling," County Public Works Manager Chuck Magee said.

In an application for a permit from the San Joaquin Valley Air Pollution Control District, the county said the project proposed for 17621 Scofield Ave. in Shafter would accept materials such as brush, yard trimmings, untreated wood waste, natural fiber, construction and demolition wood waste, orchard and vineyard prunings, grape pomace, crop residue, residential kitchen scraps and food waste from restaurants, grocery stores and cafeterias.

An electric-powered grinder would process 180 wet-tons per day of that waste, or about 45 percent of the expected daily input. Different types of organics would be sorted before being mixed, in proper proportion, to form piles that would be aerated under cover of the special fabric.

"You don't smell anything, you don't see anything," Magee said.

The air district told the county in a letter Friday that it intends to issue what's called an authority to construct the plant after the agency addresses all comments that come in during public comment.

Assuming that happens, the county expects to spend \$7.6 million on concrete structures for holding the compost, Magee estimated, plus \$6 million for equipment to control the composting emissions. The costs are to be covered in part by a 52-percent increase in property owner land use fees approved early last year by the county Board of Supervisors.

The county had no choice but to act: A state law passed in 2016 requires counties to cut the amount of green waste they send to landfills by three-quarters. Kern has until 2025 to reach the goal.

A main reason composting doesn't create methane is that, if done right, it introduces oxygen in an aerobic environment. At most landfills, organic waste decomposes in the absence of oxygen, in an anaerobic environment, creating the potent greenhouse gas methane.

The fabric proposed at the plant is designed to keep in ammonia and volatile organic compounds — mostly, in this case, alcohols soluble in water that are expected to dissolve back into the organic waste for further decomposition by microorganisms.

Magee listed two other efforts the county proposes to help it reach its organics diversion goal. One is expanded access to green bins allotted to residents for deposit of yard cuttings and food scraps.

While some of that may be composted, another idea the county is looking at would take some of the green waste, combined with paper and cardboard otherwise sent to recycling, and use it for production of renewable natural gas for sale. Magee said the industrial process required is the subject of continuing economic analysis by the county.

The air district is accepting comments on the composting proposal until May 15. Comments may be emailed to [publicnotices@valleyair.org](mailto:publicnotices@valleyair.org) or mailed to Brian Clements, director of permit services, San Joaquin Valley Unified Air Pollution Control District, 4800 Enterprise Way, Modesto, Calif., 95356.

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