

MSW Management Magazine June 2013 Monterey Forges Ahead Once Again

With a CEC Grant in hand the Marina, CA, waste facility turns the key on SmartFerm's first US anaerobic digestion plant. By John Trotti

Those of us who have marveled at how Monterey Regional Waste Management District's (MRWMD) integrated waste management system manages to pull rabbits out of its hat—think dirty MRF, landfill with 150 years of space, and its highly successful Last Chance Mercantile operation that brings reuse to a new high—once again we find ourselves eagerly dazzled by its headfirst plunge into the energy-from-waste pool. In conjunction with the California Energy Commission and Zero Waste Energy (ZWE). MRWMD's SmartFerm pilot project will convert 5,000 tons per year of organic waste into biogas providing power and heat for the district's use.



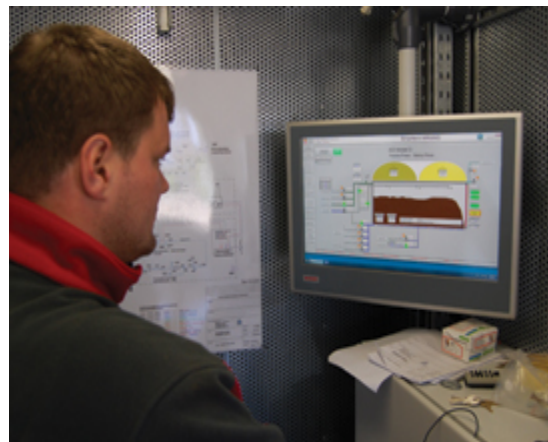
Then campus of the Monterey Regional Waste Management District is ready to cook with gas.

The agreement between MRWMD and ZWE, calls for the latter to install and operate the complete system as part of a five-year demonstration project in exchange for revenues from electrical power sale to the wastewater treatment plant located next door, and tipping fees associated with the food and source separated yard waste delivered to and processed by the SmartFerm unit.

As William Merry, General Manager of the MRWMD, says, “For nearly four years now, we have steadily honed the district's food-scrap organics composting program that utilizes an open windrow process. We intend to expand this highly successful composting program by installing SmartFerm technology on a pilot demonstration basis.” Merry believes the recovered energy value is exponential: the power produced from the project will be sold to the neighboring regional wastewater treatment plant to help them achieve their strategic goal of getting off the utility grid. “SmartFerm goes beyond being a win-win-win for our community. It is a win for our community, our economy, and our local ecology.”

C6H12O6. 3CO2 + 3CH4 in a Nutshell

MRWMD's SmartFerm installation is a space-efficient, prefabricated, scalable (4,000–20,000 TPY) modular system featuring a thermophilic process for increased gas production and pathogen reduction in the digesters. According to Dirk Dudgeon, ZWE's senior vice president, each of the four digester units is able to process roughly 60 tons of material in 25 to 28 days, yielding compost, digestate, and a gas somewhat richer in methane (less than 60%) than carbon dioxide that is then fed to a 2G Cenergy combined heat and power generator system producing 100 kW of electrical power. In addition to biogas, SmartFerm's Kompoferm technology yields soil amendments, renewable energy credits, and savings on disposal costs.



The Facility's gas management system is fully automated



Foodwaste and greenwaste before composting

When I visited the facility in early March, the initial batch of percolate (cow manure as the seed vetch) was being brought up to operating temperature with the help of a gas-fired heater that was later discarded as the digesters achieved thermophilic operating conditions. The system is now fully operational, providing the providing power to the wastewater treatment plant. The most valuable return at the moment, from viewpoint of both ZWE and MRWMD is the wealth of operational experience and knowledge for use in the future.



View of 2G Cenergy 100-kW cogen plant

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