

# Maui EKO records millionth ton of waste

Deal puts future of compost operation at landfill in question

By COLLEEN UECHI, Staff Writer

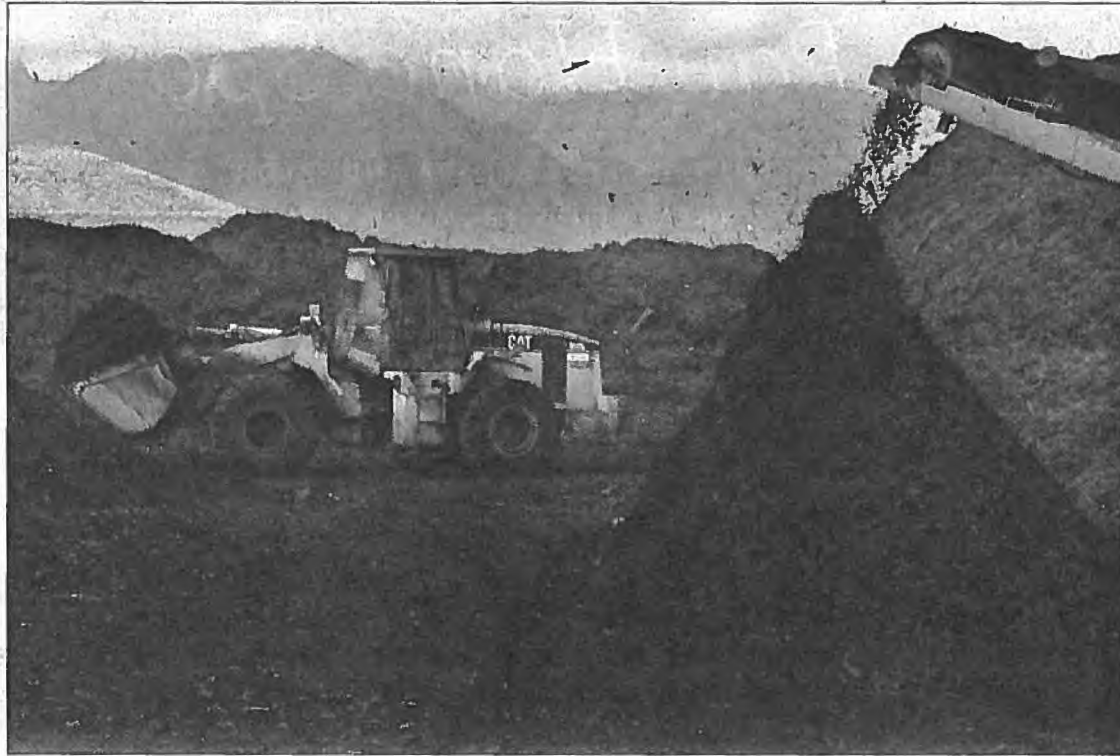
After two decades of steadily processing the island's green waste into compost, Maui EKO Compost recently diverted its millionth ton of waste.

Located at the Central Maui Landfill, the program has given residents a green waste dumping alternative and saved the county landfill space and disposal fees. Green waste, operators say, is on the rise, but depending on development and the county's contract with solid waste-to-energy consultant Anaergia, the way this green waste is diverted may change.

"Things are growing on Maui. Therefore green waste is just increasing like crazy," Maui EKO plant manager Rubens Fonseca said. "There's more landscaping, more awareness. A lot of people are making an effort to not throw away green waste in landfills anymore."

Before, green waste was lumped with residents' collective trash in Maui's landfills. However, the U.S.

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The Maui News / MATTHEW THAYER photo

**Compost that needs a little a bit more time** before it's ready to be sold emerges from the end of a screen machine at Maui EKO Compost on Friday morning at the Central Maui Landfill. The rough bits that didn't make it through the screen are returned to the piles to let the composting process continue breaking them down. After two decades of processing green waste into compost, EKO diverted its millionth ton of waste recently.

RECEIVED AT ITEM MEETING ON 3/1/16  
Committee Chair Cochran

## Compost

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Environmental Protection Agency began pushing cities to divert green waste elsewhere, Fonseca said. Maui EKO originally started as a no-cost recycling and diversion project around 20 years ago under former Mayor Linda Lingle, according to EKO.

With the help of longtime Maui County recycling coordinator Hana Steel, the facility brought aboard subcontractor Pacific Biodiesel to process fats, oils and grease, known collectively as FOG.

Pacific Biodiesel set up a plant by the Central Maui Landfill capable of converting 5,000 tons of FOG into 200,000 gallons of biodiesel. The addition of Pacific Biodiesel's operations established the first commercial renewable fuel production in Hawaii, according to EKO.

"We were a guinea pig for the Department of Health," Fonseca said of the program.

EKO combines green waste and biosolids to make compost. The facility also grinds mulch out of woody material like trees, which are too carbon rich to pile up in the landfill, Fonseca explained.

To turn biosolids, or digested sewage sludge, into compost, EKO uses a method called aerated static pile composting, in which waste is laid out in piles over perforated pipes. Workers take daily temperatures of the material (which can go as high as 130 degrees Fahrenheit, helping to kill bacteria), and samples of every batch are sent to an independent lab in Honolulu to test for pathogens and heavy metals, Fonseca said.

Before batches can be sold, recorded temperatures are sent to the state Department of Health, which regulates the facility. The department then sends a letter back releasing the batch for sale. Samples also are sent quarterly to an independent lab for testing in California and are held to EPA standards.

"Biosolids composting is very monitored and, in my opinion, one of the most cost-effective ways to recycle biosolids, yet generating a valuable and safe soil amendment," Fonseca said.

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— Rubens Fonseca,  
Maui EKO plant manager

Central Maui Landfill, has been around for 25 years and receives about 5,000 tons of green waste annually, said the facility's self-described "chief, cook and bottle washer" Tim Gunter. The facility creates compost using green waste and clean county water — no biosolids, no manure.

"EKO's compost is fine for doing roadside work and forest restoration and things like that, but for (growing) food, it definitely shouldn't be used," said Gunter, himself a former consultant for EKO.

Lauren Pieter, who runs Kihei Compost near the Kihei Wastewater Plant, agrees that organic compost is better "if you want your food to taste really good."

Kihei Compost takes in about 40 to 50 tons a day, and it only uses green waste to make its compost, which also contains more than 50 percent coconut, Pieter said.

"(Our health) is directly correlated to diets," Pieter said. "Here in Hawaii, we eat garbage, and nobody seems to care. EKO isn't doing anybody any favors by subliminally putting this product back in there in society."

Stephen Allen, chairman of Hawaii Pacific University's environmental studies program, said that as long as the compost meets federal regulations "it's suitable" and can help "close the nutrient loops."

"The food we eat contains important elements like nitrogen, potassium and phosphorus that were originally in the soil," Allen said. "The plants take up these materials from the soil, and we either eat the plants or animals that have eaten them first. They are also present in the human waste, and ultimately the compost that is put back into the soil, helping close the loop."

In the 1995-96 fiscal year, the facility diverted around 32,200 tons that included biosolids, FOG and green waste. A decade later, in fiscal year 2006-07, those numbers had more than doubled to around 70,000 tons.

The county has promoted and subsidized the program, making it free for residents to drop off green waste, while assessing a tipping fee of \$30 for commercial businesses.

"As a result, more residents are aware of this and many appreciate the opportunity to help the environment and divert from the landfill," said Michael Ratte, Maui County Solid Waste Division chief.

Homeowners who generate small amounts of green waste may believe it's easier to dump it in their refuse bins, Ratte said. However, if it fills up more than half of the bin, residents are required to bring it to EKO. He encouraged those with large amounts of green waste to set up their own backyard composting bins.

"This is the most efficient home-based solution, as well as saving monies on the hauling and processing costs to taxpayers," he said.

Last year, the facility sold around 18,000 cubic yards of compost for \$750,000. Excess compost gets donated to Upcountry farmers who only have to pay for trucking fees.

EKO and Pacific Biodiesel have been awarded for their efforts, jointly receiving the 2004 Gold Award from the Solid Waste Association of North America. Pacific Biodiesel also received the Outstanding Recycling Innovation Project award. While Pacific Biodiesel closed its plant in 2014, EKO continues to accept FOG.

Not everyone agrees, however, that biosolid composting is the way to go.

In the past, residents have criticized EKO's use of biosolids, fearing pathogen remnants in the compost that goes to parks and schools. For other compost facility operators on island, organic is the safest and best route.

Maui Earth Organic, located less than a mile away from the

Matthew Lynch, sustainability coordinator at the University of Hawaii, said that closing the loop is important but added that the composting process should continue to be carefully monitored.

"While the general concept of closing the nutrient cycle by composting human biosolid waste streams is sound, there are potential hazards that need to be addressed with the practice of turning sewage sludge into compost, especially when done at a large scale," he said.

Regardless, composting at Maui EKO may change in a few years — a lot depends on the county's deal with waste-to-energy firm Anaergia.

When Mayor Alan Arakawa signed a contract in 2014 with the California-based company to build a waste conversion and energy plant near the Central Maui Landfill, EKO feared it would be displaced. However, since then the two entities have been in talks, Fonseca said.

Anaergia President of the Americas Arun Sharma and Pacific Director of Business Development Jeff Walsh said that Anaergia's intent has always been to extract gas from biodegradable material and then using the material as compost, and that EKO could be a partner in the process.

"When we initially signed the contract, our understanding was that we were going to integrate (EKO) within our program," Sharma said, but he added that "we haven't engaged with them in the recent past because we have channelized all recent efforts ... to start the project."

Anaergia has a March 7 hearing before the Hawaii Public Utilities Commission to, among other things, compel Maui Electric Co. to negotiate a biogas fuel supply contract with the company. MECO has said that the fuel cost has been too high and would increase costs for ratepayers.

Sharma said that any agreements with EKO will depend on the final form of the Anaergia waste conversion facility, which is targeted for completion in 2018.

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