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Medina County Solid Waste District will start using sludge, and eventually food waste, to power wastewater treatment plant

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The Medina County Solid Waste District may be offering a new way to recycle in the near future, with a process that could turn food waste into energy. (Sean McDonnell, special to cleveland.com)

By [Sean McDonnell](#) - special to cleveland.com

MEDINA, Ohio -- The Medina County Solid Waste District is close to finishing its improvements to the Kenneth W. Hotz Water Reclamation Facility, which will include

two anaerobic digesters that will convert sludge from the wastewater treatment process into energy.

The project, which has cost the district \$35.2 million, will save \$1.4 million each year in operating costs. The savings come from reducing the amount of electricity and chemicals needed for wastewater treatment, as well as the new process requiring fewer workers.

The project started construction in late spring of 2017 after engineering firm Black and Veatch demonstrated that the digesters would pay for themselves in savings. According to Medina County Sanitary Engineer Amy Lyon-Galvin, the project is almost complete and should demonstrate its cost savings by the end of this year.

“We are 95 percent substantially complete, and that’ll be finished up here very shortly,” Lyon-Galvin said. “And this year is a demonstration year for the success of the new improvements all synced and working in concert to deliver the energy savings we were looking for.”

Lyon-Galvin said the new digesters will collect biogas from sludge, which is a solid byproduct of the wastewater treatment process. After preconditioning the sludge by putting it through a thermal hydrolysis process that heats and cools the matter, it will be fed into the anaerobic digesters, which then creates biogas. She said the biogas will be blended with natural gas to power two 1-megawatt generators to create power for the treatment plant.

This won’t be enough for the plant to be completely self-sustaining. However, Lyon-Galvin said the district is interested in taking in organic waste from the community to feed the digesters, in order to produce more power.

“We’re not going to be able to generate all the power with our own solids from our wastewater treatment plant process, which is why we have an interest (in organic waste) and constructed a high-strength receiving station as part of the improvement projects,” Lyon-Galvin said.

Lyon-Galvin said the district will be looking at collecting food waste from restaurants and other commercial entities in the county that can be processed using the digesters. The process would recycle the food waste and keep it out of a landfill, as well as create power for the district.

She spoke about the district’s plan at a recent Medina City Council committee meeting that focused on recycling efforts.

“The organic food waste and grease that I referenced at the meeting on Monday, that is a higher-energy fuel that we could feed into the digester to increase our biogas production,” she said. “Ultimately, our goal would be to be self sustaining so that we

wouldn't have to blend necessarily with the natural gas. We'd have sufficient biogas to power ourselves."

Lyon-Galvin said the district currently has a septic hauler program, in which haulers that serve residents with septic systems can haul their waste to the district for processing. She said the district is considering a similar model for haulers to bring in organic waste.

She said, however, that the waste coming into the digesters would have to fit certain parameters and be free of contaminants for the organic waste to be accepted.

"For example, if rubber gloves or other materials end up in the food waste that are not the source of food for the digester, we're going to want to work with that applicant to make sure that that material is pre-screened or removed," she said. "Or they've got controls in place at their facility so that the material that we are receiving is suitable for feed (without) additional handling on our side."

Lyon-Galvin said that while the district may try a pilot program this year to make sure a larger program would be feasible, she doesn't expect a commercial food waste collection program to start until 2020. She said there is no decision on whether or not the district will charge to accept the waste, either.

"How successful we are in realizing that savings, that's going to help set the framework for whether or not we're going to have a nominal fee or not charge," Lyon-Galvin said. "So it's yet to be determined on what that structure might look at when we make it available to haulers to bring the material in."

Lyon-Galvin said the project is too premature to consider a residential collection program for food waste, but that if there is interest from municipalities, the facility could accept residential waste in the future.

"We don't control sanitation services or hauling. Those decisions are made at the local level," she said. "If that's something they'd be interested in once we're able to demonstrate the success of the program as we initially envisioned it, I can't imagine we wouldn't explore those kinds of opportunities if we had willing participants."