



## What's **NEXT** for pittsburgh?

### **Ecotone Renewables, founded by local college students, turns food waste into fertilizer**

Kristy Locklin | November 2, 2020

With help from local college students, Swissvale Borough will soon use discarded table scraps to make fertilizer and grow crops.

The community, located east of Pittsburgh, teamed up with Ecotone Renewables to set up a food waste disposal system and greenhouse behind the borough building on S. Braddock Avenue. It was delivered Oct. 28 and should be fully functioning by next spring.



The Seahorse prototype — named for its portability, water independence and strong “stomach” used to break down food waste — was created three years ago by Carnegie Mellon University graduate student Dylan Lew, University of Pittsburgh graduate Kyle Wyche, University of Pittsburgh undergrad Robert Davis, Boston College senior Elliott Bennett and partner company Impact Bioenergy.

Ecotone Renewables started as an aquaponics project at the University of Pittsburgh and was the first portable farming system in Pittsburgh. It uses anaerobic digestion to break down organic material without oxygen being present.

Each week, approximately 385 pounds of food waste will go into the machine, which is housed in a 8-by-20 shipping container to eliminate odors that may attract vermin. Over

seven days, the waste is reduced to 50 gallons of fertilizer for use in Swissvale's community gardens and Department of Public Works projects.

The anaerobic processes of the system produce methane gas. In a landfill, that gas, which is 84 times more potent than carbon dioxide, is released into the atmosphere, contributing to the greenhouse effect. According to the students, rotting food waste accounts for 8.2 percent of the global greenhouse gas emissions.

But this system harnesses methane to create electricity to power the hydroponic greenhouse on top of the shipping container. Produce grown there will be donated to 412 Food Rescue and other nonprofit organizations.

Swissvale has 9,000 residents and produces about 12 tons of food waste a year, the bulk of which comes from local restaurants and coffee shops. Ecotone is working with residents and business owners to set up food waste drop-off times. The system can handle coffee grinds, fruits and vegetables, bread and pasta and cooked meats. Not accepted? Fruit pits and cobs, bones, eggshells, coffee filters and very salty foods.

Since 2017, the inventors have used the system to educate children and the public about green resources.

That's what attracted Abigail Salisbury, president of Swissvale Borough Council, to the project.

She saw a post on Ecotone Renewables' Facebook page saying they were looking for a permanent home for the system, which, at the time, was stationed in a lot in East Liberty, where it helped eliminate more than 1,594 pounds of food waste. The land is now being developed, prompting the move.

Salisbury is looking to attract more green innovators to the borough, which is already home to passionate volunteers who tend to the Swissvale Community Garden and run the Swissvale Edible Garden Tour.

The system not only creates nutrient-rich fertilizer, it cuts down on Swissvale's garbage hauling costs and promotes earth-friendly activism.

Ecotone Renewables hopes to set up systems in other communities.

"The plan for Ecotone is to expand through building and selling more systems for communities so that they can locally close their respective food loops and support local agriculture and community farming," says Wyche, COO of the company.

Wondering what you can do to reduce food waste? Buy less in bulk, store perishables correctly, pickle foods, use vegetable scraps in soup stock, and send unwanted items to food banks and composting.