



Bronx development aims to turn trash into cash

Aerobic digester could reduce waste hauling — and landlord's costs

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By [Joe Lovinger](#)



Ismene Speliotis, executive director, MHANY; Clare Miflin, director, Center for Zero Waste Design; and a rendering of The Peninsula in the Bronx (Mutual Housing Association of NY, LinkedIn/Ismene Speliotis, Center for Zero Waste Design)

The hot springs of Yellowstone National Park once dissolved a human being (<https://www.chicagotribune.com/nation-world/ct-man-falls-into-yellowstone-hot-spring-20161117-story.html>). But in 1966, microbiologist Thomas Brock discovered microscopic life forms thriving in the scalding water.

Other researchers soon noticed the microbes in geothermal pockets across the globe, from New Zealand to Iceland to Italy to Kamchatka (<https://visitkamchatka.ru/en/activities/thermal-springs/>).

Thermophilic microbes, it turns out, aren't picky about their homes. And now they're popping up somewhere less exotic: a housing project in the Bronx.

At the Peninsula, a 100 percent affordable development by Gilbane Development (<https://therealdeal.com/new-research/topics/company/gilbane-building-company/>) and Hudson Companies (<https://therealdeal.com/new-research/topics/company/hudson/>) and

operated by MHANY Management, the microbes will live in a 12-foot-long box that eats trash and spits out fertilizer.

The contraption, called an aerobic digester, will be the first ever in a New York residential building. (It is made by Harp Renewables (<https://seekingalpha.com/news/3809268-renovare-environmental-to-acquire-harp-renewables-for-20m>), one of many companies turning microbes into money-making machines.)

Inside the digester's 160-degree chamber, the same kinds of microbes that Brock found in Yellowstone will chow down on residents' leftover proteins, fats and carbohydrates, eating away the gunk until all that's left is organic fertilizer.

Sustainability has become a real estate buzzword, even though environmentalists often chide the industry for underdelivering on promises

(<https://therealdeal.com/2022/01/10/whos-judging-real-estates-environmentalism-the-industry-itself/>) to go green. But given the enormous costs that organic waste imposes to building owners and the environment, both groups are searching for the holy grail of trash. The Peninsula is betting that its digester is it.

In just one day, the digester can turn 1,100 pounds of food waste into 220 pounds of fertilizer, a commodity that recently hit record-high prices

(<https://www.cnbc.com/2022/03/22/fertilizer-prices-are-at-record-highs-heres-what-that-means.html>).

Digesters have the potential to turn one of building owners' biggest headaches into a payday.

Each year, nearly 4 million tons of New York's organic waste end up in landfills

(<https://www.nycfoodpolicy.org/food-waste-food-by-the-numbers/>), according to the food policy center at Hunter College. Totting food scraps emit more greenhouse gases

(<https://www.washingtonpost.com/climate-solutions/2021/02/25/climate-curious-food-waste/>) in the U.S. than airplanes.

By contrast, aerobic digesters are clean eaters. They don't emit carbon dioxide or methane, and their output replaces synthetic fertilizers, an environmental problem in their own right. The vapor they emit smells like "toasty cookies," according to Claire Weisz, a founding principal of WXY Studio (<https://therealdeal.com/2012/11/05/brooklyns->

tech-triangle-group-chooses-wxy-to-spearhead-infrastructure-plan/), the Peninsula's architect.

Digesters also aim to solve a quality-of-life problem. Nobody wants to live near a trash dump, but even in the city's priciest neighborhoods, New Yorkers pile their garbage bags on the sidewalk. Although aerobic digesters won't eliminate this waste, they could greatly reduce its physical, olfactory and carbon footprint.

Read more

- Who's judging real estate's environmentalism? The industry itself
- City eyes emissions-cap reprieve for some buildings (<https://therealdeal.com/2022/04/13/city-eyes-emissions-cap-reprieve-for-some-buildings/>)
- Judge rules Donald Trump can keep running Bronx golf course (<https://therealdeal.com/2022/04/09/judge-rules-donald-trump-can-keep-running-bronx-golf-course/>)

"Forty percent of the weight of those bags is compostable," said Clare Miflin, an architect and the founder of the Center for Zero Waste Design

(<https://www.centerforzerowastedesign.org/>), who worked closely with the Peninsula's development team.

At the apartment complex, rather than dumping leftovers with the rest of their trash, residents will get a separate bin for compostable material. At the refuse room, they will empty it into a brown bin, which a porter will haul to the digester.

It's a novel approach to handling waste that sounds more like something a luxury developer would advertise for a fancy, eco-friendly development

(<https://www.localize.city/blog/the-most-eco-friendly-buildings-in-nyc/>). Typically, people applying for affordable housing just want it to be clean and safe, and developers focus on getting those projects to pencil out.

The Peninsula is an ambitious endeavor. Its four residential buildings will have 740 units, at least 10 percent reserved for formerly homeless residents. The developers also promise 52,000 square feet of public open land, 15,000 square feet of commercial space and a 52,000-square-foot light industrial building. So far, just the industrial space and one residential building have been built.

In many ways, the project is the ideal waste-management guinea pig. The still-empty industrial facility will house a “food incubator” for culinary businesses. Because it will generate so much food waste, city law requires it to separate organics from regular garbage. Conveniently, the digester will be in the building with the bakers, coffee roasters, caterers, beverage makers and other tenants.

A state grant covered about 40 percent of the digester’s cost, according to Mifflin. The developers made a case that composting on site would be cheaper than hauling the waste away.

It seems an especially elegant solution for the South Bronx, where 14 waste transfer stations draw 150 private waste trucks per hour. That’s one every 24 seconds, according to a group called Transform Don’t Trash NYC. South Bronx residents die of asthma at three times the national rate.

But for all their synergies, aerobic digesters have their doubters.

“They have a lot of issues,” said Anna Dengler, a consultant at Great Forest, a sustainable waste management adviser. “This is still pretty nascent technology.”

Dengler has helped several hotels adapt to the city’s organic waste separation mandate. Many have purchased aerobic digesters like the one at the Peninsula, but have run into problems. One issue is the machines’ sensitive stomach; not all organic waste goes down well.

“They don’t necessarily take a lot of otherwise compostable materials,” said Dengler.

One of her clients liked to serve fresh orange juice, creating tons of rinds and pulp. The acidic remnants soon eroded the inside of the digester. Peninsula residents might well test their digester with waste more challenging than orange peels.

The building must overcome the same problem that has plagued the city’s curbside organics program: compliance.

Getting residents to use compost bins and remember what can and can’t go in them has been a challenge even in the wealthy, granola neighborhoods where the city rolled out a curbside organics program. At public housing developments, the city did not even ask tenants to do basic recycling.

Education is critical, particularly for the porters and janitorial staff that will actually feed the digester.

“It takes a horticulturalist to really understand the nuts and bolts of making the compost feasible,” said Dengler.

Other residential developments have tried other ways to clean up their waste management. Battery Park City mixes its landscaping waste with residential food waste and composts the combination on site, under supervision of a professional horticulturist.

Dengler said her clients “are very skeptical about any of these biodigesters.” She typically advises them to hire organic waste haulers to carry the compost to a facility built to handle it. That adds flexibility and redundancy — if one facility closes, the truck can go to another one. No need to worry about a digester breaking down.

Then there’s the money.

“The upfront cost of these biodigesters is really high,” said Dengler.

At the Peninsula, the digester sits near the industrial building’s loading dock, waiting for its first load. The futuristic facility’s cavernous, well-lit rooms reflect sunlight off their polished concrete floors. Graffiti-style murals of cityscapes decorate the white walls with splashes of color. To Mifflin, the Peninsula promises to demonstrate to building owners citywide a better way of dealing with food waste.

“Pilots and projects like this could show them the way forward,” she said.

Contact Joe Lovinger