

VASHON-MAURY ISLAND BEACHCOMBER

Island-based Impact Bioenergy fuels up car with food waste

Paul Rowley | July 18, 2020

In the film series “Back to the Future,” the character Doc Brown predicted a different way of life — unconventional by the standards of 1980s America — when he powered up his trusty DeLorean time machine with garbage.

That idea stuck with the team behind Vashon-based Impact Bioenergy, a manufacturer of systems that convert organic food waste into usable energy and fertilizer, Community Engagement Officer Srirup Kumar said. Last Thursday, the company managed to fuel a hybrid sedan with fuel derived from food waste, able to travel about half a mile per pound. They took the car for a successful test drive last week, a significant milestone several years in the making for the startup.

“When they’re actually fueling that DeLorean with food waste, you know when Doc throws in a few things, it reminds me of that, and that was kind of our original inspiration,” said Kumar. “Because it’s actually possible. This isn’t something in the future.”

Impact Bioenergy first unveiled their anaerobic digester — a system that can produce biogas derived from food waste broken down by bacteria, which can be treated and used to generate energy — last spring. And what can’t be turned into fuel can help fertilize gardens.

King County has been producing renewable biofuel suitable for commercial vehicles since 2018 at the South Treatment Plant in Renton. It’s an extension of work that started decades ago converting methane to natural gas. The county has been purifying and selling renewable natural gas for longer than any other wastewater facility in the country, offering a substitute for fossil-fuel derived natural gas typically brought through local pipelines, no drilling required. Impact Bioenergy is taking a similar approach to create its own biofuel but with certified organic food waste, stored above ground in tanks, using a process to separate methane released from digestion to power a Honda Civic that runs on natural gas.

They’re branding it as organic, renewable natural gas — that’s ORNG, pronounced “orange.”

“It’s kind of a different class of fuel that we’ve developed and now have brought to market,” Kumar said. Soon, islanders will be able to purchase it in five or 10-gallon propane cylinders for use in vehicles capable of running on natural gas or for other functions, though getting it to retail at island businesses or beyond is still a ways out.

There are a variety of potential applications for the byproduct created by Impact’s on-site anaerobic digester, Kumar added. He said Impact is aiming high, hoping that one day islanders will be able to pick-up and swap cylinders filled with biofuel out at the plant, where they can also purchase probiotic plant food. They would also like to provide the biofuel as a propane substitute on a delivery basis for homes on Vashon that may be off of the gas grid, powering their trucks with the same fuel they’ll be supplying to their customers.

“[Then] we’ll have a lot more capability in terms of delivering these products using the fuel. So it becomes a circular economy powered by the actual organics,” Kumar said.

That probiotic plant food is worthy of note. A 2017 study from the University of California Davis suggests that digestate has beneficial properties in farming and gardening compared to synthetic fertilizers. Researchers found that when organic digestate was tested on a field of tomatoes, they saw similar or better yields of red tomatoes than tomatoes grown with synthetic fertilizers, with less sunburned tomatoes, among other encouraging results.

Impact is hosting a pop-up probiotic plant food giveaway from 2 to 4 p.m. Friday, July 24, at the Vashon Bioenergy Farm. Participants are asked to give feedback about what they're growing and how they're growing it via an online survey, with the goal of learning more about the island's food system. The survey is now available online.

Gib Dammann, former president of Zero Waste Vashon, was instrumental in connecting Impact Bioenergy with the nearby Island Spring Organics tofu factory, sourcing byproducts of the ingredients used to produce tofu called okara and whey that have helped to cultivate what the company is able to do today, said Nancy O'Connor, a board member. Since those early days, Impact has come a long way, she said.

"We are very excited for them. It's just great."

O'Connor added that those who attended Impact's last pop-up event have tried out the probiotic plant food they took home then — the upcoming event is similar — and called it a great opportunity to experiment with using the fertilizer themselves. She has used it to nurture her own soil. This year she's growing an especially large vegetable garden — there's plenty of time to devote to her plants now in lieu of traveling — and she is waiting to see if the fertilizer will affect a more barren part of her yard.

"It's fun to have a business on the island that is making a business out of turning waste into resources, useful stuff," she said.