Putting Waste to Profitable Use: Carbon Fiber and Food Scraps

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More than two dozen Washington companies and organizations presented solutions to save water, energy, and wasted material during the CleanTech Showcase, presented by the CleanTech Alliance on Monday. Two that caught my eye are focused on putting waste material to beneficial use, and doing so locally.

The Composite Recycling Technology Center in Port Angeles is aiming to reuse scraps of carbon fiber composite, which Washington's aerospace industry produces in abundance. Impact Bioenergy, meanwhile, is making small-scale anaerobic digesters to put food waste to use where it's generated.

—Impact Bioenergy is building small versions of the anaerobic digesters that create energy and sustainable fertilizers from waste at dairies, landfills, and other large facilities. "This is really about miniaturizing technologies to enable more people access to on-site power generation," company president Jan Allen said.

The HORSE.

The Shoreline, WA-based company recently marked the first U.S. sale of its HORSE microdigester. That's an acronym for "high-solids organic waste recycling system with electrical output." It's about the size of a car and costs less than $40,000. It's designed to consume about 25 tons of food waste, grass clippings, paper products, liquids, and lots of other organic materials per year.

The 30-day anaerobic digestion process creates gas that can be stored in an integrated tank and used to fuel an electricity generator or burned for heating, lighting, and other applications. It also produces clean, fossil-fuel-free fertilizer and soil amendments.

The microdigesters are designed for hyper-local applications, with the inputs and products of the digester coming from and going to locations within a one-mile radius. "We're trying to take the truck out of the equation," Allen said. (The company makes larger-capacity digesters, too.)

For example, Fremont Brewing is planning to feed one with wort, spent yeast, and other beer-making leftovers. The nearby Seattle Urban Farm Company would take the resulting fertilizer, Allen said. The arrangement, managed by ForTheGood Public Benefit Corp., was the first U.S. sale for the HORSE. Another unit was sold to a customer in British Columbia.

Allen sees a significant market for these products as restaurants, corporate and school cafeterias, food processors, and grocery stores look for ways to deal with their waste and generate their own energy. And that market has growth potential as more cities ban organic waste from the garbage, as Seattle did this year.

“This organic waste issue is universal,” he said.