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## Agilyx marketing its plastics-to-oil technology

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BEAVERTON, ORE. (Nov. 30, 12:30 p.m. ET) -- When Lew Feucht sees a bag of potato chips, he doesn't see the salty snack inside the bag. He's see black gold, Texas tea, pure crude oil.

"Potato chip bags. Candy bar wrappers. The stuff that's contaminated, comingled and landfill destined. That's the stuff we like," he said in an interview at the company's headquarters near Portland, Ore.

Feucht is an account manager for Agilyx, a start-up company that is turning waste plastic into crude oil to be sold to a refinery.

"We sometimes say we're bottom-feeders," he said. "It's the waste plastic that no one else wants or can do anything with."

Agilyx has designed a system to take shredded plastic, heat it to the point that it becomes a liquid, and then gasify it. The gas is brought back to a liquid in a condenser and turned into a mixture of water and crude oil. The process can take a 1,000-pound batch of plastic and turn it into crude oil in five hours.

The system is efficient, he said; it makes five BTUs worth of energy for every one BTU of energy used to process the material.

The company's small industrial facility in Tigard, Ore., can process 10 tons of waste plastic a day. A tanker picks up 9,000 to 10,000 gallons of crude oil every seven to 10 days.

While the system can take all types of plastics, Feucht said the company likes to avoid PET and high density polyethylene in favor of those with recycling codes 3-7, which are less frequently recycled.

"We don't want to compete with the recycling market," he said. "We are going after the waste plastic that, at the end of the day, doesn't have a very valuable home."

Flexible packaging and plastic bags make great crude oil, he said.

There are all different types of streams that work in the system, including leftover plastic from car shredding, commonly referred to as auto fluff. The leftover plastic from electronic waste can be run through the system as well.

According to the U.S. Environmental Protection Agency, 31 million tons of plastic waste was generated in 2010, with only 8 percent of that recycled.

"Landfill operators hate plastic," Fuecht said. "They get paid by the ton. And plastic is low weight but high volume. So they get the least amount of money and it fills up their landfill faster."

Founded originally as Plas2Fuel Corp., Agilyx changed its name and opened its 10-ton-per-day demonstration facility in April 2010.

Agilyx has more than 55 employees. It grew out of the small office space in the Tigard plant and has recently moved into office space in nearby Beaverton.

The company is looking to sell the technology to material resource facilities or other locations that have uses for it. The cost for a 20-ton system is between \$4 million and \$5 million.

A 20-ton-per-day facility can produce 118 barrels of crude oil per day. At \$85 a barrel, that equates to \$3.3 million a year.

"We are trying to give this industry a new profit stream," Fuecht said. "We want to go where the plastic already is."

The company has been boosted by \$28.7 million in venture capital, including money from Waste Management Inc. Venture capital firm Kleiner Perkins has also invested in the company.

Wes Muir, spokesman for Waste Management, said Agilyx has developed interesting conversion technology that appears to have promise and be commercially scalable.

"It has the ability to address the issue of hard-to-recycle plastics," Muir said. "Here's an opportunity to take those hard-to-recycle plastics and extract the value out of the materials that would have otherwise been disposed of, and find an opportunity to have a value added product [in the production of crude oil]."

The entire process is constantly monitored with computers. Jeff Fery, a shift supervisor, often can be found keeping an eye on the process.

"This is really amazing and it's come a really long way," he said while monitoring a batch last month.

Fuecht said the company wants to be able to give waste plastic new life.

"Anyone can just throw all this stuff in an incinerator and burn it, but there's such a higher value delivered here in having a high value road fuel, or jet fuel," he said. "For plastic that has no good home, we say bring it on."

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