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Innovation & Job News

Turning "pee" into power is mission of E3 Clean Technologies

THURSDAY, MARCH 10, 2011

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[E3 Clean Technologies](#) wants to turn your pee into power.

Gerardine Botte, a professor of biomolecular and chemical engineering at [Ohio University](#), has developed technology to create energy from the ammonia found in human and animal organic waste.

She is the founder of Athens-based E3 Clean Technologies and is developing her "SCR GreenBox," the product that will harness the technology for distribution, at the Ohio University Innovation Center.

Kent Shields, CEO of E3, says that the GreenBox has potential in several markets, wastewater treatment, agriculture, the military, electronics manufacturing, and power plant management.

The GreenBox works by using a patented low-energy electrolysis process that converts ammonia and urea in wastewater to hydrogen, nitrogen and pure water, says Shields. The box also produces hydrogen energy.

"This unit works similar to a battery," he says. "We break down ammonia and turn it into clean energy."

A large GreenBox that could be used by a municipal wastewater treatment facility would be about the size of a tractor trailer, says Shields. A smaller unit that might be used in a small manufacturing facility would be about the size of a

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refrigerator. The company estimates that the device could reduce the operational costs for reducing ammonia from wastewater by 60 percent.

E3 has received early stage funding of \$350,000 from [TechGROWTH Ohio](#), a technology funding program backed by the [Ohio Third Frontier](#) initiative. Pre-production GreenBox units could be ready by early 2012, says Shields. Within the next three years the company could hire up to 30 engineers and field technicians as it goes to market. He estimates that as many as double that number of jobs could be created through the manufacturing process for the product, for which E3 will contract with local companies.

Source: Kent Shields, E3 Clean Technologies

Writer: Val Prevish

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