

## Video: EcoVolt generates energy from wastewater (w/ Video)

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Spun out of the Massachusetts Institute of Technology (MIT) in 2006, Cambrian Innovation is commercializing a portfolio of environmental solutions based on newly discovered electrically active microbes. By harnessing the power of bio-electricity and advances in electrochemistry, Cambrian Innovation's products help industrial, agricultural and government customers save money while recovering clean water and clean energy from wastewater streams.

With support from the National Science Foundation (NSF), engineers and co-founders Matt Silver and Justin Buck are bringing their research from the lab to the market. One system, called EcoVolt, generates [methane gas](#) from the wastewater by leveraging what is called "electromethanogenesis." It's a newly discovered process for producing methane.

"NSF funding of Cambrian Innovation's research demonstrates our strong interest in supporting small business innovation that leads to novel and greener technological solutions to societal challenges," says NSF program director Prakash Balan.

The EcoVolt system sends wastewater through a bio-electrochemical reactor. As water filters through it, special bacteria in the reactor eat the organic waste in the water and release electrons as a byproduct. Those electrons travel through a circuit to generate methane, or CH<sub>4</sub>.

A wireless signal allows the process to be monitored remotely. This very

high quality methane is then piped out to an engine, where it's burned with a small amount of natural gas. It then generates heat and energy. In addition, sensor systems built by Cambrian Innovation can also monitor pollutants, such as fertilizer run-off.

Provided by National Science Foundation

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