



# Landfill collecting, converting gas

*2 companies receive alternative fuels grants*

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🕒 May 4, 2019 📁 Business Features 💬



According to Edward Vogel, vice president of Vogel Holding Inc., the company's Seneca Landfill in Jackson Township, below, collects gas once considered a nuisance by-product through pumps, left, set in sections of the landfill. The gas is pumped to an on-site treatment facility, cleaned and converted to compressed natural gas. A Vogel subsidiary has received a \$352,800 Alternative Fuels Incentive grant.

**HAROLD AUGHTON/ BUTLER EAGLE**

JACKSON TWP — The Seneca Landfill is more than the final resting place for trash.

“They call it a landfill, but it's really an energy production facility,” said Edward R. Vogel, vice president of Vogel Holding Inc.

Decomposing garbage in landfills gives off gas containing methane, carbon dioxide, nitrogen and oxygen.

The gas was once considered a nuisance by-product that landfills, including Seneca, used to burn or flare to dispose of it.

But now the Seneca Landfill collects the gas through 260 pumps set in sections, or cells, of the landfill. The gas is pumped to an on-site treatment facility that cleans and converts it to compressed natural gas (CNG) used to fuel 35 of the hundreds of trucks belonging to the five trash collection and hauling companies that are subsidiaries of Vogel Holding.

The U.S. Environmental Protection Agency reports landfills are among the largest source of human-related methane emissions in the United States, accounting for approximately 14.1 percent of such emissions. Vogel's company is one of a growing number of businesses nationwide transforming methane emissions from landfills into a significant energy resource.

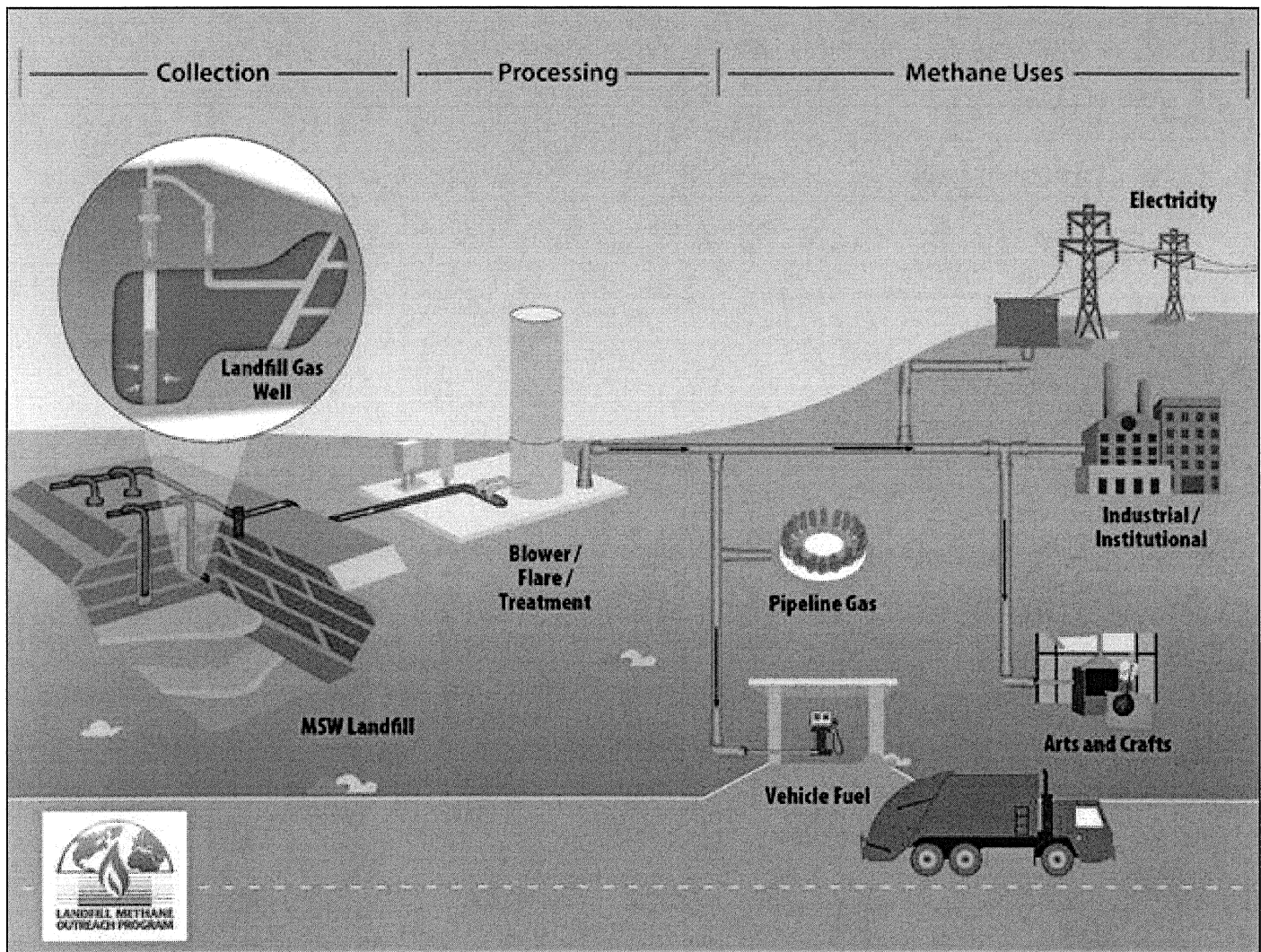
According to the EPA, solid waste undergoes a decomposition stage when first deposited in a landfill, which produces small amounts of methane.

Within a year, the conditions become such that methane-producing bacteria begin to decompose waste at a more rapid rate, generating higher levels of methane.

But instead of allowing methane gas created by decomposition to escape into the air, companies like Vogel's are converting the landfill gas into compressed natural gas fuel (CNG). Vertical and horizontal piping buried in a solid waste landfill collects the gas, which is then processed and treated for use. This process helps reduce odors and other hazards associated with emissions, and prevents methane from migrating into the atmosphere and contributing to local smog and global climate change, according to the EPA.

Lego-V Renewable Energy, one of Vogel's subsidiaries, received an Environmental Excellence award from Gov. Tom Wolf for the CNG fueling station at the landfill in March and recently received a \$352,800 Alternative Fuels Incentive grant from the Pennsylvania Department of Environmental Protection to help pay for creating a virtual pipeline to haul the gas to garbage truck CNG fueling stations in Mars, Grove City and Beaver Valley.

Those three stations will eventually be open to the public as the station at the landfill is. "If you have a credit card and a CNG vehicle, you can fill up right here," Vogel said.



According to the EPA landfill gas (LFG) is a natural byproduct of the decomposition of organic material in landfills. LFG is composed of roughly 50 percent methane (the primary component of natural gas), 50 percent carbon dioxide, and a small amount of non-methane organic compounds. U.S. ENVIRONMENTAL PROTECTION AGENCY

The virtual pipeline is truck trailers designed to carry CNG and the equipment needed to pump the gas from the trailers to the fueling stations.

Vogel said the materials used to line the bottom and cap the top of landfill cells exceed requirements, so he can capture as much gas as possible. Each cell produces gas for at least 20 years, he said.

"It's a manufacturing facility for green energy. We use a nuisance byproduct and turn it into fuel," Vogel said.

Another area business received an Alternative Fuels Incentive Grant to use toward the purchase of electric vehicles that will be used as taxi cabs.

Classy Cab Co. of Cranberry Township received a \$67,500 grant to buy nine electric vehicles.

The company is one of five taxi and limousine companies that are part of Star Transportation Group, which was founded in 1985 by Robert DeLucia. He is company chairman, but his sons Derek and Robert run the business.

Some of those companies already use vehicles powered by alternative fuels. VE Taxi, which employs military veterans and veteran family members, uses electric and CNG vehicles. Star Limousine Service has two Tesla Model X cars in its fleet.

Star Transportation has been using vehicles that run on alternative fuels since 2008, DeLucia said.

“It reduces fuel costs and dependence on foreign oil. We started with propane and natural gas and now electric. I'm an advocate for alternative fuels,” said DeLucia, a Vietnam veteran.

He has received one of nine Tesla Model 3 cars that will be used by Classy Cab. New drivers who will have to be trained to operate electric vehicles will be needed when the rest of the cars come in, he said.

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