

Electricity from landfill waste gas

In the United States, the world's second largest landfill is snaked with miles of large-diameter pipes, which bring methane gas from decaying waste to a power plant. The plant comprises 52 MW of boilers, bus-sized generators and other process equipment. A refrigerator-sized 30 kW Capstone microturbine power system has recently completed its first 1,300 hours of operation on landfill gas. An independent emissions testing company has certified that the Capstone microturbine conforms to the criteria for hydrocarbon (HC) destruction efficiency. Moreover, the NO_x emission rate, of this particular Capstone unit, is just 1.3 ppm in the oxygen-rich exhaust of the system. This microturbine generates less than 9 ppm NO_x at full load, whenever natural gas or propane is used.

The landfill gas fed into the Capstone system contains impurities and contaminants that make it a more difficult fuel source than propane or commercial natural gas. The gas mixture is compressed and liquids are removed, but the fuel source is otherwise untreated. Other types of power generators require more extensive "cleaning" of the gas mixture. *Contact: Mr. Keith Field, Capstone Turbine Corporation, California, the United States. Tel: +1 (818) 7162 929; Website: <http://www.capstone-turbine.com>.*

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