

Gas-To-Energy



Monitoring gas and leachate levels within landfills ensures that Waste Management gas-to-energy projects continuously produce safe, renewable power while protecting the surrounding environment.

THE INDUSTRY LEADER

Since the mid-1980s, Waste Management has been a leader in landfill gas-to-energy technology. Combining technological innovation with its environmental and operations expertise, Waste Management has provided communities with a renewable energy resource that is natural, dependable and readily available.

Waste Management built its first two-landfill gas-to-energy facilities in Wisconsin in 1985. Two years later, the company built its first medium Btu gas plant in Ohio. Today, Waste Management, the leader in environmental technologies, has more than 40 landfill gas-to-energy plants with a total capacity of almost 200 megawatts currently operating throughout the United States. The plants range in size from two to 11 megawatts, and achieve typical on-line availability of more than 95 percent.

Waste Management is the managing partner for 29 of the renewable energy plants. The remaining plants have been developed with a variety of entities promoting renewable energy, including third-party developers, local energy co-ops, public utilities and municipal utilities. Over the past two decades, Waste Management has developed the in-house expertise to design, operate and maintain these plants, and successfully directs the marketing and management of their renewable energy output.

FREQUENTLY ASKED QUESTIONS:

Q. How long does a landfill produce landfill gas?

A. Landfills produce landfill gas throughout their life. The flow begins to decrease shortly after the landfill is closed.

Q. What happens to landfill gas that isn't immediately converted to electricity?

A. Landfill gas cannot be stored. Therefore, gas that is not used immediately to produce power must be burned off at the site using flares.

Q. What kind of companies use electricity from landfill gas?

A. Currently, gas from Waste Management landfills is being used by many industries, including major automotive, chemical companies, utilities and power cooperatives in 21 states.

Q. Have Waste Management gas-to-energy projects received any special recognition or awards?

A. Many. For example, in 1999, Waste Management was named the EPA's Landfill Methane Outreach Program (LMOP) Industry Ally of the Year. The company was one of just seven allies, partners and individual landfill gas-to-energy projects honored by the EPA for outstanding efforts to promote landfill gas-to-energy technology. In 2000, Waste Management's Grand Central Sanitary Landfill in Plainfield Township, Northampton County, Pa., received the "Project of the Year" award from the EPA's LMOP for its landfill gas-to-energy efforts.

For more information about participating with Waste Management in renewable energy projects, please contact your Waste Management Landfill & Industrial Services sales representative.

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GAS-TO-ENERGY

For Innovations in Renewable Energy

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Landfills are the principal depositories for North America's solid wastes. Every day, thousands of tons of waste are sent to hundreds of landfills throughout the United States and Canada. But not all that waste goes to waste. In fact, at numerous Waste Management landfills, naturally occurring gases are captured and converted into electricity, a renewable energy source that brings light and heat to tens of thousands of nearby homes and businesses.

AN ENVIRONMENTALLY FRIENDLY RENEWABLE ENERGY SOURCE

Landfill gas has proven itself to be a reliable and economical energy source. The Federal Environmental Protection Agency (EPA) has endorsed landfill-gas-to-energy systems as being environmentally friendly.

In addition, landfill gas-to-energy provides many benefits and advantages compared to both traditional fossil fuels and other alternative energy sources. These benefits and advantages include:

- Reduces dependency on foreign energy sources
- Energy output is constant and not dependant on sun, wind or other environmental variables
- Provides a predictable, renewable energy resource during "peak hours"
- Fuel price is stable
- Energy availability exceeds 95%, compared to 90% for energy industry as a whole

These projects — whether traditional gas-to-energy, medium BTU or high BTU — benefit the environment by using a renewable form of energy to offset non-renewable resources such as coal, oil, natural gas and nuclear energy. Landfill gas-to-energy is a vital and important part of North America's drive to develop alternative energy sources and promote environmental sustainability.



With cities nationwide looking for new, environmentally responsible ways to provide energy for their growing populations, Waste Management gas-to-energy projects provide a dependable, renewable and pollution free solution.

GAS-TO-ENERGY PROJECTS

Today, there are three basic types of landfill gas-to-energy facilities:

Traditional Gas-to-Energy: A facility where landfill gas is de-watered, filtered, compressed, and then piped directly to an on-site electricity generating engine or turbine. A typical traditional gas-to-energy facility will generate enough power to continuously serve approximately 3,000 homes.

Medium Btu Projects: A facility that pipes landfill gas to off-site industrial customers for use in fuel boilers and furnaces. Typically, the end-users of the medium Btu landfill gas modify their operations to allow the burning of both landfill gas and fossil fuels.

High Btu Projects: A project where landfill gas is processed to remove the carbon dioxide and then sold as high Btu pipeline-quality gas. Use of this gas requires no operations modifications on the part of their end-users.

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