

# Capturing methane gas helps the community and helps the environment

For more than a decade, MGE has supported generating electricity from methane gas. It is one of the many sources of distributed generation in our service area.

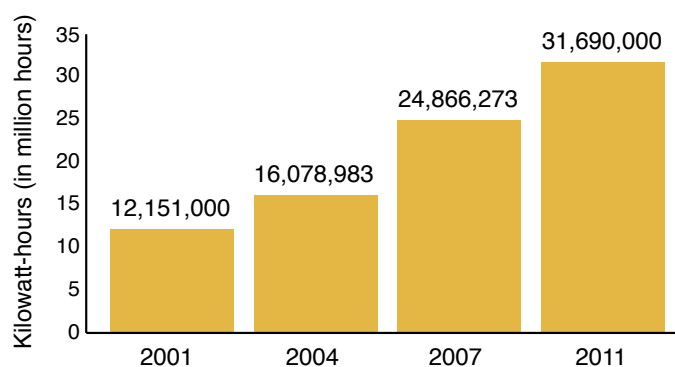
MGE purchases the electricity from the Dane County Rodefild Landfill where generators run on methane gas. Dane County collects the methane gas produced naturally in the landfill. The generators export the energy to MGE's distribution system.

This methane gas is a local resource that contributes to our community energy grid—a mix of energy sources that serve all of our customers. The Rodefild generators currently produce more than 31-million kilowatt-hours (kWh) per year or enough electricity to power about 4,800 homes. The amount of electricity that MGE has purchased from Dane County's Rodefild methane generators has more than tripled in the last decade. Dane County operated two generators until 2004 when two more were added. Another two were added in 2010.

Benefits of landfill gas as an energy source:

- Helps destroy methane, a potent heat-trapping greenhouse gas.
- Reduces air pollution by offsetting the use of nonrenewable resources such as coal, natural gas and oil.
- Helps communities take advantage of a local resource by using garbage as an energy supply.

## MGE's total annual kilowatt production hours from Rodefild Landfill



*This is a 1,600-kilowatt generator located at the Rodefild Landfill on Madison's southeast side. It helps convert methane gas into electricity, which MGE buys and uses to power more than 4,500 homes.*

In 2009, MGE renewed its agreement with Dane County to purchase electricity generated by methane gas from the Rodefild Landfill. Under the 10-year contract, MGE will purchase a minimum of 26 million kWh annually of electricity generated at the landfill.

The State of Wisconsin counts electricity produced by methane gas as part of our Renewable Portfolio Standard. The landfill power currently represents about 8% of MGE's total renewable energy supply.

## What is methane?

Methane is a naturally occurring gas in the environment formed by decaying fossil fuels deep in the earth and below the ocean floor. It is also produced in landfills as garbage decomposes. It is an excellent energy source but also is a primary greenhouse gas.

In the atmosphere, methane has more than 20 times the global warming potency than carbon dioxide (CO<sub>2</sub>). However, methane as a fuel burns much cleaner and produces 50% less greenhouse gases than coal.

Electrical generation from the Rodefild Landfill could eliminate burning about 20,000 tons of coal annually.

*(continued on reverse)*

## Capturing landfill methane

Landfills are one of the top sources of human-influenced methane emissions. Many municipalities either vent the collected methane or burn off the methane gas through a flare.

Capturing the methane at the landfill and using it as a fuel source not only offsets the use of fossil fuels, such as coal, but reduces the amount of greenhouse gases that are released into the environment.

## Powerful greenhouse gas

In the atmosphere, methane is contributing to global climate change. While methane is naturally released into the atmosphere, levels have almost tripled in the last 250 years (coinciding with the start of the industrial revolution). According to scientists, methane levels are at the highest levels in the last 400,000 years.

## For more information

- Visit [www.mge.com/environment](http://www.mge.com/environment) to read our 2010 Environmental Responsibility Report and learn what we are doing to reduce greenhouse gases.
- Visit [www.epa.gov/outreach/](http://www.epa.gov/outreach/), on the Environmental Protection Agency Web page discussing methane gas with links to other sites.