

# Landfill Gas to Energy Project

# Fact Sheet



**Developers** - AC Landfill Energy, LLC (ACLE), a joint venture of:

- DCO Energy
- South Jersey Industries

**Project Cost** - \$3 million

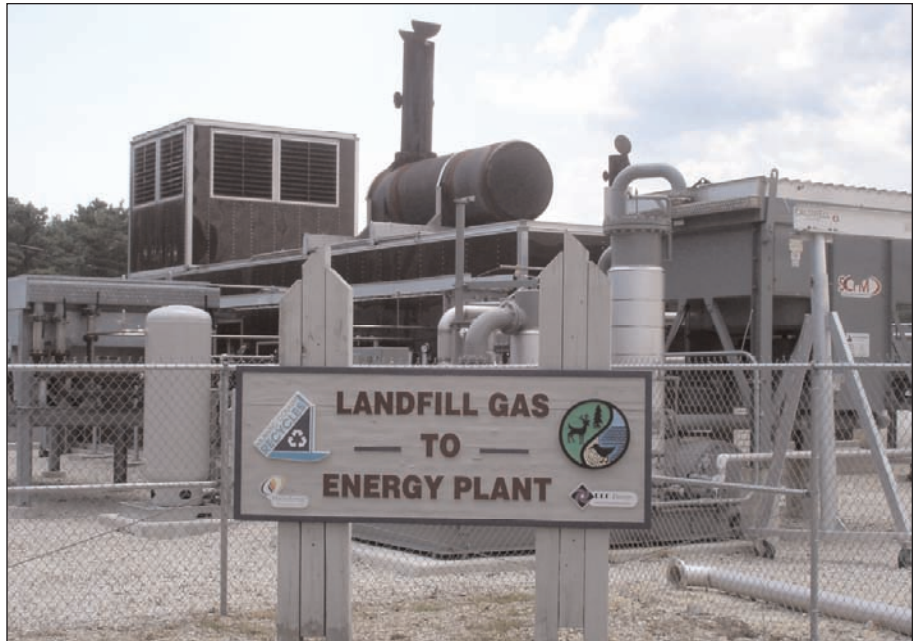
**Funding Assistance** -

- \$513,000 grant from New Jersey Board of Public Utilities
- \$2 million low interest loan from New Jersey Economic Development Authority
- \$375,000 grant from the New Jersey Department of Environmental Protection

**Environmental Impacts** -

Landfill gas is approximately 50 percent methane, a potent greenhouse gas. Landfill gas is also a source of smog and odor problems. By capturing and using landfill gas, air pollution is reduced and an otherwise wasted source of energy is used. The three generators use approximately 1,750 cubic feet per minute of landfill gas which:

- has a system size of 5.4 megawatts
- can generate 42,638,400 kWhs/yr, enough to power 2,757 homes for one year.
- can generate the energy equivalent of 25,083 barrels of oil.
- which yields the same reduction in greenhouse gases as removing 45,410 cars from the road for one year.
- and has the same greenhouse gas impact as planting 64,718 acres of trees.



*The landfill gas to energy plant began powering operations in March 2005 at the Atlantic County Utilities Authority Howard "Fritz" Haneman Environmental Park located in Egg Harbor Township. Energy needs at the park are supplied by the project and the majority of the electric generated flows to the PJM Grid.*



**Atlantic County Utilities Authority**  
[www.acua.com](http://www.acua.com)



Using landfill gas reduces the need to use more polluting forms of energy, such as coal and oil. Landfill gas is also the only type of renewable energy that directly reduces pollution to the atmosphere. Since landfill gas occurs naturally, the Atlantic County Utilities Authority is putting to use a fuel that occurs naturally by collecting it and converting it to energy. Landfill gas to energy projects generate electricity more than 90 percent of the time, 24 hours a day, seven days a week.

The National Solid Waste Management Association (NSWMA) recently issued a report detailing how much the solid waste industry has done to reduce greenhouse gas emission over the past 30 years. Greenhouse gases, including carbon dioxide and methane, drop heat once they are released into the atmosphere.

In 1970, net greenhouse gas emissions from municipal solid waste activities totaled 60.5 metric tons of carbon dioxide equivalence, according to the NSWMA. By 2003, this figure had declined to 7.8 tons of carbon dioxide equivalence. The emission reduction has occurred while the amount of municipal solid waste has nearly doubled.



*The second generator began operating in August 2006.*

The report attributes the reduction to several factors. First, the industry has increased its collection and control of landfill gas through engineered landfills. Second, recycling and composting has deferred materials that would otherwise end up in landfills. Third, more and more landfill gas is being captured and converted into electricity as in the case of the ACUA Landfill. The report goes on to describe the ways in which the solid waste industry may continue to curb its greenhouse gas emissions.

Among the initiatives:

- Using bioreactor landfills
- The continued use of hybrid vehicles and biodiesel vehicles
- Using compost as landfill cover

All of these initiatives have been implemented by the ACUA.



## Economic Impacts



ACUA receives a discount in electric costs from buying power from the ACLE project. Additionally the ACUA receives additional benefits from a revenue sharing agreement. The Authority receives 20% of gross revenue from all three of the landfill gas generators. This revenue includes energy sales, capacity sales, ancillary services, and Renewable Energy Credit (REC) sales.

In addition to reduced cost of electricity and revenue sharing the ACUA also receives an annual land lease payment for the site. After renegotiating its contract with ACLE in 2008, the ACUA receives \$210,000 each year for the first five years of the new contract (2008 to 2013) for the lease of the land. This lease payment increases to \$230,000 annually for the second 5 years, and again to \$250,000 for the third 5 years.

In 2009, the ACUA saved more than \$250,000 in energy costs and obtained more than \$625,000 from revenue sharing and land lease payments. In addition to the ACUA's contract with ACLE, the ACUA participates in the Climate Action Reserve (CAR), a non-profit government sponsored program that allows companies to submit their greenhouse gas reducing projects and have them tracked, measured and verified. Companies that register such projects have the ability to gain Climate Reserve tonnes (CRT) or offset credits

## How does it work?

