LANCASTER COUNTY SOLID WASTE MANAGEMENT AUTHORITY

Renewable Energy Generation

Lancaster County Solid Waste Management Authority (LCSWMA) facilities generate enough renewable energy from trash to power 1 in 6 Lancaster County homes on a daily basis.

Hard to believe? Consider the following:

- Together the 36 megawatt Resource Recovery Facility (RRF) and the 3.2 megawatt Landfill Gas-to-Energy (LFG) System have renewable energy generation capacity of 39,200 kilowatts per hour.
- An average Lancaster County home uses about 10,500 kilowatt hours of electricity per year. (US EPA)

Resource Recovery Facility located in Bainbridge, PA
Conoy Township, Lancaster County

The RRF, owned by LCSWMA and operated by Covanta Energy, generates renewable energy through a mass burn combustion system that burns normal trash. This waste burns at high enough temperatures to convert water into steam which drives a turbine that creates electricity. Only 10% of the energy generated is used to operate the facility and 90% is sold to an electric utility company.

- At the RRF, one ton of municipal solid waste has the energy equivalent of one barrel of oil. In 2008, over 378,000 tons of waste were processed at the RRF.
- Over 218,700,000 kilowatt hours of electricity were produced and sold to Metropolitan Edison in 2008.
- Enough renewable energy has been produced to power all Lancaster County homes for 2 years since the RRF began operations in 1991.

2006 EPA Project of the Year

Landfill Gas-to-Energy Plant located in Conestoga, PA
Manor Township, Lancaster County

Photo courtesy of Grant Heilman

In 2005 LCSWMA partnered with PPL Energy Services to capture and utilize the methane gas produced by the active Frey Farm and inactive Creswell Landfills. LCSWMA installed the landfill gas collection system and PPL built the LFG plant. The LFG power plant began producing renewable energy from landfill gas in December 2005. Enough energy is generated from the LFG system to power 3,000 homes per year.

- This is the energy equivalent of offsetting 30,400 barrels of oil or 64 railroad cars of coal per year.

LCSWMA is continuing to explore renewable energy generation possibilities at the Frey Farm Landfill with partner PPL Energy Services.

- The velocity and frequency of wind at Turkey Point has been studied for the past 18 months.
- There is enough wind to support two (2) 1.5 megawatt wind turbines at the Landfill.
- Throughout 2009, avian migratory patterns are being studied.

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Additional information can be found at www.lcswma.org