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Landfill Gas Energy

Fueling the Economy and a Sustainable Energy Future While Improving the Environment

Landfill gas (LFG) energy projects have been around since the late 1970s, providing sustainable renewable energy in the form of electricity and renewable fuel to citizens, businesses, and industry. In 2009 alone, more than 520 operational LFG energy projects in 46 states supplied:

- 13 billion kilowatt-hours of electricity, and
- 99 billion cubic feet of LFG to end users.

The estimated annual environmental benefits associated with these operational projects are equivalent to:

- Carbon sequestered annually by 19,800,000 acres of pine or fir forests, or
- CO₂ emissions from 216,600,000 barrels of oil consumed, or
- Annual greenhouse gas emissions from 17,800,000 passenger vehicles, or
- CO₂ emissions from burning 486,000 railcars' worth of coal.

LFG energy projects also have a substantial impact on economic growth and cost savings. A typical 3 megawatt LFG electricity project is estimated to have the following economic and job creation benefits during the construction year:

- Add more than \$1.5 million in new project expenditures for the purchase of equipment.

- Directly create at least 5 jobs for the construction and installation of the equipment.
- Considering a ripple effect, will increase the state-wide economic output by \$4.3 million and employ 20-26 people.

These projects bring significant cost savings and long-term energy price stability to LFG end users:

- BMW Manufacturing has saved an average of \$5 million annually since 2003 at its plant in Greer, South Carolina.
- Kimberly-Clark reports saving \$800,000 per year by utilizing LFG in boilers at its Beech Island, South Carolina facility.
- SC Johnson estimates \$1 million in net savings per year at its plant in Racine, Wisconsin.
- The NASA Goddard Space Flight Center saves taxpayers nearly \$400,000 per year with its LFG energy project in Greenbelt, Maryland.

However, much remains to be done. EPA estimates that at least 500 other landfills present economically attractive opportunities for LFG energy project development, with the potential to generate an additional 1,100 megawatts or 12,000 million British thermal units per hour (MMBtu/hr).

LFG energy—utilizing an otherwise wasted resource to benefit the environment and the economy!

EPA's Landfill Methane Outreach Program (LMOP) is a voluntary assistance and partnership program that promotes the use of LFG as a renewable energy resource. By preventing emissions of methane—a potent greenhouse gas—through the development of LFG energy projects, LMOP helps businesses, states, and communities protect the environment and build a sustainable energy future. Over the past fifteen years, LMOP has assisted in the development of more than 460 LFG energy projects. As of December 31, 2009, LFG energy projects with LMOP involvement had cumulatively prevented more than 6.5 million tons of methane from entering the atmosphere. For more information about LMOP, visit www.epa.gov/lmop.