



**Case Study #3-4**

**Company Name:** DaimlerChrysler Corporation

**Number of Facilities (as applicable):** 2

**Year(s) of Implementation:** 2001- Ongoing

**Description of Activity:** DaimlerChrysler utilizes landfill gas (LFG) as a fuel alternative in two natural gas-fired boilers at its St. Louis Assembly Plants.

Landfill gas is sent from the landfill through a 4.5-mile pipeline to DaimlerChrysler's St. Louis Assembly Plant complex. DaimlerChrysler's partners in the project are Superior Services of Onyx North America, which operates the landfill and Horizon Power, Inc. (Toro Energy) which provides the equipment for trapping the waste gases at the landfill, treating and compressing the gases, and piping them under low pressure to the plant powerhouse. Two of the plants' four boilers at St. Louis were modified to use landfill gas in a way that produces the same thermal characteristics as natural gas boilers. The boilers produce steam that is used for process heating, especially in the paint shop, and for space heating. In summer, the steam drives a turbine that powers three chillers for cooling.

Two boilers use more than 2 million cubic feet of LFG per day - up to 70 percent of the plant's boiler fuel demand replacing up to 400,000 mmBtu of natural gas per year. It is estimated that the landfill will supply LFG to the plant for 25 years.

**Specific Energy, GHG, Cost Benefits Achieved:** The St. Louis complex burned approximately 140,000 mmBtu in 2001, 310,000 mmBtu in 2002, and 370,000 mmBtu in 2003. As a result, approximately 57,000 metric tons of CO<sub>2</sub> have been avoided based upon the EPA's Landfill Methane Outreach Program (LMOP).

**Additional Environmental Benefits:** In addition to reducing greenhouse gas emissions, the capture and use of landfill gas improves local air quality. Air quality is improved by means of emission reductions realized through the displacement of natural gas as boiler fuel and the thermal conversion of LFG. Boiler emissions utilizing LFG show reductions in volatile organic compounds (VOC's), nitrous oxides (NOX), and particulate matter (PM) emissions. Since St. Louis is a non-attainment area these "net" air emission reductions remain an important benefit of the project.