Landfill Gas Recovery at Ford Wayne Stamping and Assembly Plant.

DESCRIPTION OF THE FACILITY

The Wayne Stamping and Assembly Plant (Wayne) integrates both stamping and assembly operations. Assembled body units and stamped body components are transferred from the stamping/body area in one building to the paint and assembly area in an adjacent building via an overpass bridge. The assembly process includes welding and sealing of sheet metal body components, metal finishing (sanding and surface preparation), phosphate coating, painting, and final assembly. Opened in 1952, Wayne employs over 3,000 individuals and produces over 200,000 units per year. In 1999, Wayne Assembly will begin producing the new Ford Focus and continue to build the Ford Escort.

DESCRIPTION OF THE OPPORTUNITY BEING ADDRESSED

Three boilers burn natural gas to generate steam used in plant processes and to heat the plant. Wayne Stamping and Assembly buildings cover more than 2 million square feet and annually use approximately 1,000,000 MMBTU of natural gas and 150,000,000 kWh of electricity. Detroit Edison supplies the electricity.

DESCRIPTION OF THE IMPROVEMENT

A long-term agreement between Detroit Edison and Wayne allows landfill gas from Woodland Meadows Landfill to be collected, compressed, and sent through underground piping to the plant. The boilers burn a combination of natural gas and landfill gas to create steam for use in the plant. The landfill gas also powers three engine generators, which produce approximately 2.4 megawatts of electricity. The electricity is sent to Detroit Edison's grid system using a step-up transformer. Flaring of the landfill gas is minimized in turn reducing emissions from the landfill. Exhaust from the engines is recycled via ducts to the boilers' fireboxes; the combustion in the boilers acts as a re-burn cycle to further reduce the emissions from the engines. The 2 MMBTU per hour of recovered heat from the engines means less gas in the boilers, reducing energy consumption and emissions. The partnership of Ford and Detroit Edison gives the utility company an electricity source from garbage that displaces coal-fired power.

SUBSTANCE ADDRESSED	**REDUCTION OBTAINED**
Use of Coal-fired Power	21,000,000 kWh/yr

ENVIRONMENTAL HIERARCHY LEVELS:

Alternative energy source.