

## **Status of Waste Generation, Disposal and Landfill Gas Activities in Texas**

**by Wayne Lee**

Through seminars and meetings with stakeholders, the TCEQ promotes and encourages the recovery and productive use of landfill gas in Texas. The TCEQ has acts as a clearinghouse of information available on landfill gas recovery and use.

### **Landfill Gas Resources in Texas:**

Approximately 74 landfills in Texas have been identified that might be able to viably recover gas.

### **Landfills with Gas Recovery Projects:**

There were six landfills that recovered gas in 2001 in Texas. These landfills collected more than 3.9 billion cubic feet of gas.

Four of these landfills used the collected gas for fuel and the other two used the gas for electric generation.

A total of eight authorizations have been issued for gas recovery and five other registration applications are pending in Texas.

### **Environmental Benefits of the Recovery and Use of Landfill Gas:**

To understand the benefits of recovering and using landfill gas, first consider the problems posed as this gas either enters the atmosphere directly or migrates through surrounding soils:

- Although methane—the principal component of landfill gas—is odorless, many other gases produced in trace levels by landfills and carried with the methane have offensive odors.
- Landfills can and often do generate concentrations of methane that are both flammable and explosive.
- Landfill gas that migrates through the soil can penetrate nearby buildings, bringing the hazards of fire or explosion to their occupants.
- Moving through soil or through the air, landfill gas can slow or stop the growth of nearby plants.

If these gases are instead collected, each of these problems can be reduced or eliminated. A typical landfill gas collection system is a series of wells that are drilled into the landfill and connected by a piping system. Although modern landfills must have gas collection systems, most landfill operators in Texas have chosen to flare the collected gas. But another viable option can be to use this gas to generate electricity, depending on the volume of gas produced by the landfill, the local cost of electricity, and the viability of distributing the electricity produced.

Furthermore, burning methane to generate electricity turns this greenhouse gas into carbon dioxide. Although carbon dioxide is also a greenhouse gas, it has less than 5 percent of the heat-trapping effect of methane.

In short, the recovery and productive use of landfill gas can increase local supplies of electricity while removing a source of environmental problems.