

## Research Project into the Monitoring Protocol for Emissions from Landfill Gas Utilisation Systems Environment Agency

*Ongoing R&D contract aimed at a greater understanding of emissions and creation of a standard set of monitoring protocols*

This research project aims to develop a greater understanding of such emissions and produce a standard set of monitoring protocols to allow the collection of data in a consistent manner. The project will provide a guidance document on the best practice for monitoring emissions to atmosphere from landfill gas utilisation systems and record appropriate emission standards.

Objectives are:

- to review recent research and available literature on existing monitoring protocols and emission standards for landfill systems;
- to identify key pollutant emissions that have the potential to have the most significant environmental impacts;
- to identify best practice protocols for the monitoring of pollutant emission and run verification trials on operating landfill gas utilisation systems;
- to produce a guidance document containing details of the best practice monitoring protocols and the results of the field trials; this document will also cover health and safety issues, quality control and quality assurance and a monitoring strategy to record appropriate emission standards which could be used for possible future regulation; and
- to develop a training package based on the guidance document.



Biodegradable wastes in landfill sites decay under anaerobic conditions to produce leachate and landfill gas. This gas is composed mainly of methane and carbon dioxide, although depending on the type of waste in the site, other gases such as sulphurous and halogenated compounds and hydrocarbons may be present.

Operators are required to manage sites safely to control gas migration and explosion risks. This control often consists of gas venting or collection for flaring, or,

a landfill gas utilisation system. The increasing importance of landfill gas utilisation systems is reflected by the fact that this process now generates more energy than any other National Fossil Fuel Obligation scheme. The last 10 years has seen a rapid expansion in landfill gas schemes, with some 300 currently in operation or in the planning stage. At present however, there is a lack of information regarding the atmospheric emissions from these systems.

