

# TECHNOLOGY DEVELOPMENT PROJECT FACT SHEET

## RT007: Biogas Technologies

*Biogas is a methane rich flammable gas that results from the decomposition of organic waste material.*

*There are two ways that organic wastes are converted into biogas and in some cases to produce energy. They are **uncontrolled anaerobic digestion** and **controlled anaerobic digestion**.*

**Uncontrolled Anaerobic Digestion** is the method where, in the case of Wetlands and Ponds, Landfills and Feedstock (cattle) areas, the organic material is allowed to decay or dry, releasing methane into the atmosphere. Escaping methane rich gas goes into the atmosphere where it is more hazardous than CO<sub>2</sub> as a greenhouse gas.

**Controlled Anaerobic Digestion** is a biological process, conducted in an oxygen-starved atmosphere usually in a man-made bio-reactor. Sewage treatment plants are designed to clean the water from the sewage and in the process can generate large amounts of methane. Animal waste can be similarly treated and the methane can be either flared or used for power production.

*Dry Manure can be gasified to create a hydrogen-rich **Syngas**. Syngas consists of hydrogen, carbon monoxide, and small amounts of methane and can be used for power generation.*

*A rapid gasification process can produce **BioOil**, a petroleum-like material that can be refined into adhesives, plastics, fragrances, flavorings, chemicals and fuels*

