

Anaerobic Digestion

Currently, much of our biodegradable waste such as food, garden waste, card and paper is sent to landfill, where it breaks down to release methane, a powerful greenhouse gas.

Anaerobic Digestion (AD) is a treatment that composts this waste in the absence of oxygen, producing a biogas that can be used to generate electricity and heat.

Producing 100 per cent renewable energy from our biodegradable waste helps tackle climate change caused by land filling and incineration.

AD is a biological process that happens naturally when bacteria breaks down organic matter in environments with little or no oxygen. It is effectively a controlled and enclosed version of anaerobic breakdown of organic waste in landfill which releases methane.

Almost any organic material can be processed with AD, including waste paper and cardboard (which is of too low a grade to recycle, e.g. because of food contamination), leftover food, grass clippings and other green waste.

AD produces a biogas made up of around 60 per cent methane and 40 per cent carbon dioxide. This can be burnt to generate heat or electricity or can be used as a vehicle fuel. If used as a vehicle fuel the biogas needs to be purified. It can then be used to power vehicles such as bin lorries or be fed into the local grid to provide fuel for home heating.

As well as biogas, AD produces a solid and liquid residue called digestate which can be used as a soil conditioner to fertilise land. The amount of biogas and the quality of digestates obtained will vary according to the feedstock used. More gas will be produced if the feedstock is something like grass or waste food which decomposes easily.