Environment Agency

Would you like to find out more about us, or about your environment?

Then call us on
03708 506 506 (Mon–Fri 8–6)

Calls to 03 numbers cost the same as calls to standard geographic numbers (i.e. numbers beginning with 01 or 02).

email
enquiries@environment–agency.gov.uk
or visit our website
www.environment–agency.gov.uk

incident hotline 0800 80 70 60 (24hrs)
floodline 0845 988 1188

GESW1111BUCH-E-E

Anaerobic digestion

Information about treating biodegradable waste using anaerobic digestion

Waste - the issue

Globally, our consumption of resources is higher than can be sustained. Conserving and making the best use of natural resources means we need to reduce the amount of waste we produce in the first place. Where waste is unavoidable we should aim to reuse it, recycle it or recover value from it in some way.

This leaflet explains one of the ways that biodegradable waste can be used sustainably - via Anaerobic Digestion (AD).

Anaerobic digestion is a proven way of obtaining energy from waste. When biodegradable waste, such as food or garden waste, is put into an enclosed container without oxygen, bacteria breaks down the waste, turning it into a substance known as digestate. During this process gases such as methane and carbon dioxide are produced, which are known as biogas. The biogas is collected on site and is usually burned, creating a renewable source of energy such as heat or electricity.

Anaerobic digestion can reduce greenhouse gases by capturing the methane within the biogas. In addition, the digestate can be used in agriculture and spread on land as a fertiliser to improve soil condition.
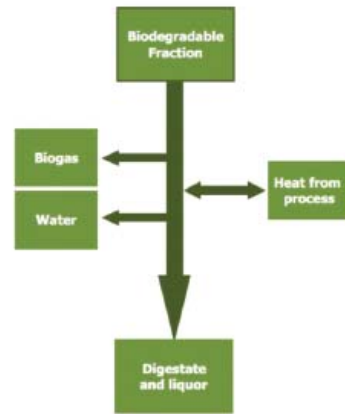
DEFRA, 2007

Our position on anaerobic digestion

We support AD as a way of reducing the amount of biodegradable waste going to landfill. The combination of energy recovery and recycling from AD means that it is often the best way of recovering value from certain biodegradable wastes, such as food waste.

Suitable materials

Waste such as leftover food, garden waste, sewage and some industrial effluents can be used in AD. Agricultural waste such as slurry, manure and specifically grown crops can also be used. The digestate from AD is high in nutrients and is typically spread on agricultural land to improve soil condition. There are regulations regarding this in order to safeguard the environment.

Planning permission

Before an AD plant can be built, the operator usually has to apply to the planning authority for planning permission. The planning application will detail the type of facility and where it will be located. If you wish to comment on a proposed site, you need to contact the planning authority.

We are consulted during the planning process. We give the planning authority our views on how the site could affect the environment and we may recommend certain conditions to ensure the site will not cause harm to human health. We do not decide if, or where, a facility is built.

Environmental permit

As well as planning permission, the operator needs an environmental permit before the site can open. We are responsible for issuing these. There are different types of permit, but they all set out the way the site operates, ensuring it is not harmful to people or the environment.

When an operator applies for an environmental permit we assess the nature and scale of the proposed AD plant and the types of materials it will process. We consult with the public on some types of permit application. We will not grant a permit if we believe the site is likely to harm people's health, or cause pollution to the environment.

Concerned about anaerobic digestion?

If you are experiencing problems from an existing AD site, contact our free incident hotline on 0800 807060, open 24hrs a day, 7 days a week. We will investigate your concerns and get back to you explaining what action we may be taking.

If you are concerned about a proposed AD site you should contact the relevant planning authority in the first instance. You can also contact our national customer contact centre on 03708 506 506, Monday to Friday, 8am to 6pm.