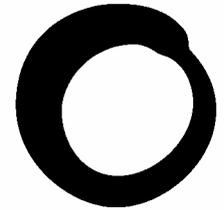


# Briefing Note



**Friends of  
the Earth**

## New waste technologies

### Getting informed

#### Introduction

The majority of 'residual' municipal waste – waste which isn't recycled or composted - is currently buried in landfill sites or burnt in large incinerators. But waste disposal authorities are increasingly looking for other ways to deal with this residual waste. Some of the processes being put forward are new to the UK and there is little data available on the environmental impacts of these technologies.

This fact sheet provides local campaigners with a set of key questions to ask about any new waste technology being proposed. Once armed with the answers it will be easier to decide if the proposed treatment method for residual waste is a sustainable option for managing the area's residual waste.

#### The main technologies

The table on page 2 outlines the main technologies that are currently being proposed as alternatives to landfill and mass-burn incineration for the disposal or treatment of residual municipal waste.

#### Questions to ask about new waste technologies

##### Waste stream

- What proportion of the waste stream - particularly Municipal Solid Waste (MSW) - will the plant treat?
- Will the plant take mixed residual waste or is it planning to only take biological / biodegradable Municipal Waste?
- Will there be front-end recycling at the plant even if there is a kerbside recycling scheme already in place?
- Is the plant planning on taking commercial waste as well as MSW?
- Are wastes such as batteries, fluorescent light bulbs, and other materials, which will soon be classed as hazardous, removed from the waste stream prior to treatment?

(continued over)

---

**Friends of the Earth inspires solutions to environmental problems, which make life better for people.**

**Friends of the Earth is:**

- **the UK's most influential national environmental campaigning organisation**
- **the most extensive environmental network in the world, with almost one million supporters across five continents and over 60 national organisations worldwide**
- **a unique network of campaigning local groups, working in over 200 communities throughout England, Wales and Northern Ireland**
- **dependent on individuals for over 90 per cent of its income.**

**To join or make a donation call us on 0800 581 051**

**Friends of the Earth, 26-28 Underwood Street, London N1 7JQ  
Tel: 020 7490 1555 Fax: 020 7490 0881 Email: [info@foe.co.uk](mailto:info@foe.co.uk) Website: [www.foe.co.uk](http://www.foe.co.uk)**

Friends of the Earth Limited company number 1012357

♻️ Printed on paper made from 100 per cent post-consumer waste

Table 1: The main technologies being proposed

Technology	Brief description
Mechanical biological treatment (MBT or BMT)	Friends of the Earth has published a briefing on MBT. It is available on our website at: <a href="http://www.foe.co.uk/resource/briefings/mchnical_biolo_treatmnt.pdf">http://www.foe.co.uk/resource/briefings/mchnical_biolo_treatmnt.pdf</a>
Gasification / pyrolysis	Friends of the Earth has published a briefing on gasification / pyrolysis. It is available on our website at: <a href="http://www.foe.co.uk/resource/briefings/gasification_pyrolysis.pdf">http://www.foe.co.uk/resource/briefings/gasification_pyrolysis.pdf</a>
Autoclaving	This treatment involves sealing the waste and treating it with steam at 140-160oC in an autoclave. After the steam has been injected the pressure is maintained for 30-40 minutes. This sterilises the waste. When the treatment is complete the residue is discharged and subject to screening. Fine material is then separated from the larger material such as metal and plastic. The fine fraction is then further separated into a lighter material (organic fibre) from heavier material (glass and grit). The metals and plastics may be sent for recycling. Some of the wastes can be recovered for aggregate material – such as the glass and grit. The organic fraction could have a number of uses depending on the quality of the material and the markets available. It may be suitable for land-spreading, making into a fibre to be used in the construction industry, or made into refuse derived fuel. There will be some residue from the whole process that will be sent to landfill. There are currently two companies proposing this technology in the UK – Sterecycle and Estech Europe Ltd.
Anaerobic Digestion (AD)	This treatment uses bacteria to break down organic material without the oxygen present. The process produces a biogas (mainly methane) and a digestate, or residue. Depending on the quality of the input material the residue produced may be suitable for composting, or it may only be suitable for landfill cover or as use as a fuel.  AD can be used as part of an MBT process if mixed residual waste is to be treated.

### Residue

- What will be the composition of the waste stream which goes into the plant or process?
- Will any materials that come out of the plant or process be recycled? If so, will they be eligible for recycling credits, or aid the council in meeting their recycling and composting targets?

### Location

- Has the site been identified for waste management in the Waste Local Plan?
- Is the site suitable?
- What will be the amenity effects – e.g. visual impact or odours?
- What will it mean for traffic movements?

### Capacity

- What is the capacity of the plant – i.e. how much tonnage of waste will it process per year?
- How much of this tonnage is MSW and how much is commercial or industrial waste?
- From how far away is the waste going to come?
- Is the plant modular i.e. how easy is it to remove and add capacity to the plant?

### Cost and Contract

- How much will it cost and where is the money coming from, e.g. is there a PFI bid?
- How long is the waste contract for?
- Does the contract stipulate minimum quantities of waste that have to be treated at the plant?

## **Community Involvement**

- What community consultation has there been?
- Are the company and the local authority planning to set up a community liaison panel?

## **Emissions and energy**

- What are the air, land and water emissions from the plant?
- What monitoring systems will be in place to check that emissions meet legal standards?
- What are the contingency plans if there are breaches of emissions from the plant?
- What is the energy consumption of the plant? Is this energy going to come from a renewable source?

## **Specific questions to the company**

- Does the company operate a commercial plant anywhere else in the UK / Europe / world?
- Can it provide a flow diagram of the process?

## **Specific questions to the local authority**

- Are there good separated kerbside collection schemes in place? If so, will the local Waste Collection Authorities continue to provide these separated collections?
- Are the local authorities considering a separate home composting scheme to reduce the amount of waste collected?
- What are the local councils' current recycling rates and what are their targets?
- Will the scheme interfere with recycling or composting plans or commitments?
- Has the technology been shown to be the 'best practicable environmental option' (BPEO) for the waste stream it will be processing?

## **Specific questions on anaerobic digestion**

- How will the biogas produced be utilised?
- Is the MSW waste going to be mixed with something else such as sewage sludge?
- Is the plant taking mixed residual waste, or only source separated material?

## **Specific questions on autoclave**

- Will the excess steam be used to power the process?
- What will happen to the materials after autoclaving?

## **Specific questions on MBT**

- What is the residue from the process and what are the proposed routes for it?
- Will it produce refused derived fuel (RDF)?
- If it will produce RDF, where will it be going – will it be used on site, sent to a cement kiln or power station or incinerator?
- Which MBT process does it use – are the materials sorted out first and then the residual digested, or does it digest first and then sort?

## **Specific questions on gasification / pyrolysis**

- How will the gas produced be utilised?
- Can the process cope with mixed MSW or does it need specific materials such as paper and plastic?