

Legislative Changes Ahead: Waste Food Disposal

Managing the Disposal of Animal By- Products

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Environmental Services Association

Sectoral Trade Association representing the UK's waste management industry

150 Members providing total waste management service:

- Collection
- Recycling
- Resource recovery
- Final treatment and disposal

£5b turnover – 0.5% GDP

Waste Management Costs

UK	0.5% GDP
Netherlands	1% GDP
Germany	1% GDP
Denmark	1.3% GDP

Waste management is changing for producers and waste managers

- Process-driven
- Higher environmental standards
- Cradle-to-grave approach
- On-site resource management

Regulation drives change

- 95% of environmental regulation derived from EU
- It is happening, and will continue to happen: we need to make it work

Waste producers and waste managers need

- Clear precise standards
- Consistent and proportionate enforcement
- Investigation and prosecution of environmental criminals

Waste Producers: Duty of Care

- Ensure only licensed waste managers dispose or treat waste; use a Registered Carrier or Broker
- Ensure an accurate written description of waste and a 'transfer note' accompanies the waste
- Duty of Care extends until the waste has either been disposed of or fully recovered
- Be aware of where your waste is going
- Act on knowledge of illegal handling

Breach of Duty of Care

- Breach of Duty of Care can be costly
- Unlimited fines and possible imprisonment:

“Illegal landfill costs man nearly £200,000”

“Waste offences cost Swansea company over £17,000”

“Wales' First Fly-Tipping Jail Sentence”

“Environment Agency Secures Almost £1 Million in Successful Prosecutions in 2003”

Responsible waste management

- Responsibility of waste producer and waste manager.
- Need for effective communication between both players.
- If in doubt, talk to your waste management company.

Responsible waste management

Waste management is changing for producers and waste managers

- Process-driven
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European Waste Catalogue (EWC)

- Waste producers must describe their waste using the appropriate EWC code on transfer note
- Codes defined by industry/activity
- Provides information to waste managers to allow information for appropriate waste management
- Implements the revised hazardous waste list = more hazardous waste

EU Animal By-Products Regulation

Came into force 1 July 2003, But:

2001 F&M outbreak composting of catering waste (including household kitchen waste was effectively prohibited (Animal By-Products Order)

DEFRA risk assessment on composting of catering waste: new rules for composting of catering waste

Waste management industry has been preparing for these changes for some time

EU Animal By-Products Regulation

Prohibits the disposal of category 3 animal by-products to landfill

“animal by-products” includes raw meat and raw fish and “former foodstuffs of animal origin”.

Transitional period until 31 December 2005 which permits former foodstuffs to be disposed of to landfill providing measures are taken to exclude raw meat and raw fish

EU Animal By-Products Regulation

Approved disposal routes

Rendering

Incineration

Technical plant

Biological treatment:

Composting

Biogas (anaerobic digestion)

‘Other’ technologies?

The current situation

Former foodstuffs still being disposed of in landfill
ESA's Members will continue to collect and landfill catering waste and former foodstuffs subject to the transitional period whilst developing new disposal outlets during this time.

Some animal by-products (including former foodstuffs) sent for incineration by food producers

Where do we need to be?

By 31 December 2005 compliance with the Animal By-Products Regulation

Separation of former foodstuffs from other wastes

Collection network

Treatment and disposal capacity (rendering, incineration, biological treatment)

Outlets for materials

Services provided by ESA's Members

- Containers
- Collection
- Transport
- Storage
- Treatment: biological and thermal
- Disposal

Industry Challenges

Market information

Size of market may constrain the set up of a new collection infrastructure for very small quantities

Are looking at a small quantity collection scheme

Market conditions may be right for this once derogation comes to an end.

Customers awareness

Separate collection schemes

Industry Challenges

Different transport modes

Treatment and disposal options:

- Incineration capacity

- Composting and biogas

- Other technologies

Clarity of Regulation and Enforcement

Industry Challenges

Either develop own collection and disposal infrastructure; or

Strategic alliances with rendering and incineration industries

Industry Challenges

Develop own capability

- Can and will make arrangements for larger volume to transport materials to approved disposal routes
- Size of market will not currently fund the set up of a new collection infrastructure for very small quantities
- Are looking at a small quantity collection scheme
- Market conditions may be right for this once derogation comes to an end or Task force reports back.

Industry Challenges

Develop own capability

Incineration capacity

MSW incineration capacity in UK = 3.3 million tonnes p.a.

Majority is tied to local authority contracts

But operators do take some waste from food processing industry

Some specialist incineration capacity

Industry Challenges

Develop own capability

Biological treatment (composting and biogas)

New infrastructure

Investment certainty

Planning

Permitting

Challenges for waste producers

- Separation of former foodstuffs
- Storage of former foodstuffs
- Arrangements for collection
- Costs will increase:
 - Collection
 - Storage
 - Treatment
 - Disposal

Biological treatment

EU Animal By-Products regulation allows for composting or biogas treatment of category 3 animal by-products

Minimum process requirements for composting or biogas treatment of category 3 animal by-products:

Closed vessel system

Maximum particle size before entering the unit: 12 mm

Minimum temperature in all material in the unit: 70°C

Minimum time in the unit without interruption: 60 minutes

Biological treatment

Composting/biogas reactors must also have:

- (a) installations for monitoring temperature against time;
- (b) recording devices to record continuously the results of these measurements; and
- (c) an adequate safety system to prevent insufficient heating.

Biological treatment

Biogas (anaerobic digestion)

Anaerobic system

In-vessel

Residue may require further treatment, e.g. composting

Combined with Mechanical Biological Treatment (MBT)

Biological treatment

Composting

Aerobic system

In-vessel

Sanitised product with potential for further use

Around 10 ABPR compliant facilities for dealing with catering waste.

None for category 3 animal by-products

Biological treatment

Composting/biogas reactors must also have:

- (a) installations for monitoring temperature against time;
- (b) recording devices to record continuously the results of these measurements; and
- (c) an adequate safety system to prevent insufficient heating.

Biological treatment

Minimum process requirements for composting catering waste

System	Composting in a closed reactor	Composting in a closed reactor	Composting in housed windrows
Maximum particle size	40cm	6cm	40cm
Minimum temperature	60°C	70°C	60°C
Minimum time spent at minimum temperature	2 days	1 hour	8 days (during which the windrow shall be turned at least 3 times at no less than 2 days intervals)

Biological treatment

Minimum process requirements for biogas treatment of catering waste

System	Biogas in pasteurisation or hygienisation unit	Biogas in pasteurisation or hygienisation unit
Maximum particle size	5cm	6cm
Minimum temperature	57°C	70°C
Minimum time spent at the minimum temperature	5 hours	1 hour

Biological treatment

Permitting requirements:

PPC permit or Waste Management Licence

State Veterinary Service Approval

Operational requirements (based on HACCP)

Separation of 'clean' and 'unclean' areas

Cleansing and disinfection facilities for vehicles and containers

No access by vermin

Biological treatment

Other operational requirements (composting and biogas)

Record keeping:

- Animal by-products received on premises

- Treatment and critical control points

Sampling of composting or digestion residue

Testing (*Salmonella* and *Enterobacteriaceae*)

No residues to be consigned until test results received

Emerging treatment technologies

Mechanical Biological Treatment

Mechanical separation of recyclable materials

Biological stabilisation of residues but may also treat the residues using:

Composting

Biogas

Interest from local authorities as an alternative to energy from waste incineration

Emerging treatment technologies

Mechanical Biological Treatment

Local authority contracts

Biostabilised material (landfill or low grade land application, e.g. landfill cover)

Refuse Derived Fuel

'New' Thermal Treatment technologies

Pyrolysis

Gasification

Current cost

Landfill baseline:

Gate fee	£5-25 per tonne (regional variation)
Tax	£15 per tonne (£18 per tonne from April 2005)
Transport	Variable: time dependent

Future cost

Treatment and disposal

Green waste composting	£25 per tonne
ABPR composting (catering waste)	£45 per tonne
ABPR composting (category 3)	£?? (unknown)

What do ESA's Members need?

Customers Awareness

Market information

- Accurate information about overall waste arisings

- Periodicity of waste arisings

- Geographical distribution of waste arisings

Contract certainty

What do ESA's Members need?

Clarity of Regulation and Enforcement:

All waste producers meet their requirements

Clamp down on illegal activity

Application of biologically treated material to land

Packaging issues

Liaison between different regulators (Local Authorities, Environment Agency and State Veterinary Service)

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