

Sustainable management of biowastes

This position statement and those linked to it state our views on some of the most pressing issues concerning the developing topic of biowastes. The target audience is principally central, regional and local government, the waste management industry, water industry, farmers and agricultural advisers. It will also be of interest to members of the public.

Biowaste is often taken to mean the organic biodegradable fraction of the municipal waste stream, including garden waste, food waste and other biodegradable material such as paper. We have extended the definition to include similar biodegradable wastes from commercial¹ and industrial sources, together with sewage sludge and agricultural manures and slurries. It does not include clinical bio-hazardous wastes.

We believe that biowastes should be treated and recovered to maximise their benefit as a resource, whilst minimising their impact on the environment.

We want a more coherent and integrated approach to management and disposal of biowastes, linked to waste strategy and land use planning.

Key issues

Understanding the nature of a waste is fundamental to managing it effectively. We prefer to see separation of biowastes at source into identifiable fractions; this clearly has advantages over allowing wastes to be mixed together. We recognise that source separation of municipal waste is not always practicable, but a lack of separation will limit the options for its re-use.

The management of biowaste is changing rapidly. We need to clarify our role and views for government and industry. To support government waste strategies and encourage recovery of biowastes, the right balance of controls and incentives needs to be found in order to encourage beneficial use of biowastes whilst ensuring that land, the wider environment and human health are protected.

New biowastes are being used, or proposed for use as soil conditioners in increasing quantities. There is currently uncertainty about the benefits some of these biowastes provide and the potential detrimental effects that they may have on the environment, in particular on soil. Where more information is needed on those risks, a precautionary approach to regulation may be necessary to avoid detriment to the environment or human health.

As more and new materials are used as soil conditioners, there will be increased demand for land. We are concerned that the supply of organic soil conditioners in

¹ including wastes from the preparation of food and drink in retail, hotel, restaurant sectors etc.

some areas will outstrip demand. Important regulations to protect the environment from over-application, such as the proposed Nitrates Action Programme and the Water Framework Directive (which may limit the amount of soil conditioner that can be used) will undoubtedly increase the demand for suitable land.

Our role

As a regulator:

- we have a modern, risk based approach to regulation. We regulate the treatment and use of biowastes through a range of measures, from deregulation through the BREW Quality Protocols to bespoke permits
- we have been working closely with government on the Environmental Permitting Regulations, and on a major review of the waste exemptions regime, expected to come into effect in 2009.

As experts and advisors:

- we have produced and contributed to research and guidance on biowaste treatment and use. We are a partner in delivering government waste strategies. We have a role in land use planning, providing data at a strategic level and responding to individual planning consultations. We have also produced a [soil strategy](#) which outlines our wider commitment to the protection and management of soils
- we have published separate position statements on the [Use of Waste Incineration in Waste Management Strategies](#) and on [Biomass](#)
- where biowastes are produced from mixed and potentially contaminated sources, they pose special challenges both for the environment and regulation. We have set out our views on sustainable management of Sewage sludge and septic tank sludge and of Compost Like Output from Mechanical and Biological Treatment of mixed source municipal wastes in separate documents. We also have a position statement on Composting.

Solutions - what we call for:

Treatment technologies. There are a number of emerging technologies for treating biowastes as well as a few well established ones. Choosing the right treatment technology for a given situation is complex and will depend on the type of material being treated. Those planning and delivering waste management infrastructure should find the best treatment for their individual situation, taking into account environmental and other relevant considerations.

Those treating biowaste should aim to maximise its benefit as a resource. The value of the waste both as a source of quality material and of energy must be considered. We want to see high quality materials derived from source segregated biowastes finding markets as a resource, rather than low quality materials that need disposal with tight and restrictive regulation.

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Waste planners and developers must consider the availability of local land and relevant regulatory controls for any soil conditioner outputs when making investment decisions on biological waste treatment plants. We support Defra's ALLOWANCE project, which is analysing the availability of land, and hope the results will shortly be available to waste planners.

Use on land. Producers of biowastes should carry out ongoing research into the nature of the materials they produce. When assessing permits or exemptions from permits to spread wastes on land, we will always ask for evidence of:

- what contaminants are in the materials
- details of the soil conditioning benefits and any detrimental effects that the material has
- other requirements set out in the relevant regulations and guidance.

This is especially important for materials produced from:

- process industries
- materials which have not, until recently been widely used as a soil conditioner, such as treated food wastes
- sites where there is uncertainty about the nature of source materials including unsegregated and mixed source wastes.

Farmers and other practitioners should follow good practice when spreading materials on land, including the Defra Codes of Good Agricultural Practice.

Background

The range of names used for biowastes reflects a variety in use, value, quality and impact on the environment. Among them: sludge, slurry, manure, biosolids, organic resources and compost. Some are considered to be wastes, others products, depending on the circumstances.

In total, they represent over 100 million tonnes of material produced in the UK each year.

Biowastes contain carbon. In landfills, much of this carbon is converted to carbon dioxide and methane, a potent greenhouse gas with 23 times the global warming potential of carbon dioxide. Successful biowaste recovery obtains value from the carbon whilst minimising its release to the atmosphere in the form of greenhouse gases. Value can be recovered either by: producing energy; using it as a source of organic carbon in soils; or by a combination of the two.

The way in which biowastes are managed and disposed of by industry, commerce and local government is changing rapidly. Biowaste recovery is increasing and disposal to landfill decreasing, driven by various factors such as the implementation

of the Landfill Directive, governments' waste strategies, landfill tax and local authority targets.

In practice, the options for using or disposing of biowastes are normally limited to use as a soil conditioner/fertiliser, incineration (or other thermal treatment), landfill, or treatment followed by one of those options.

Soils can benefit from the addition of good quality biowastes. Healthy soils, well stocked with organic matter, can help prevent pollutants entering watercourses. They mitigate the effects of extreme weather events that cause floods and droughts - events we expect to see more of as a result of climate change. Use of biowastes as soil conditioners also replaces the need for inorganic fertilisers produced in resource intensive processes. But biowastes can contain physical, biological and chemical contaminants and have the potential to cause pollution or harm to human health if mismanaged. The level and nature of contamination varies between materials, as does our knowledge of the contamination potential.

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