



Raising standards

Making Defra's hazardous waste strategy a reality



How the UK treats its hazardous waste has significant economic and environmental implications. ESA member companies deal with a wide range of hazardous waste materials using best available technologies, protecting human health and the environment while providing jobs and growth for the UK economy. But evidence is emerging that some of the UK's hazardous waste is being sent for lower cost and less environmentally sound treatment, both here and elsewhere in the EU, contrary to the Government's hazardous waste strategy and EU rules. This risks undermining investments made in the best available technologies and deterring future investment critical to delivering the strategy.



The Importance of hazardous waste

Hazardous waste has the potential to cause particular harm to human health and the environment, so it is vital that it is handled and treated in an appropriate way in order to maintain public confidence. Hazardous waste must be properly regulated so that all of it can be accounted for.

Hazardous wastes arise because many of the goods and services that society demands result in some limited quantities of hazardous waste as a by-product. Many everyday items such as computer monitors, mobile phones, TVs, fridges and some types of batteries can contain hazardous materials and so can become hazardous waste, as well as more obvious materials such as asbestos and waste oils. Hazardous waste comes from a wide variety of sources including businesses of all kinds, households, and public bodies such as the health service, schools and universities. If society wants the benefit of these goods and services, then we need hazardous waste infrastructure to deal with the waste.

ESA member companies deal with these hazardous materials using the latest technologies, protecting the public and the environment and providing jobs and growth

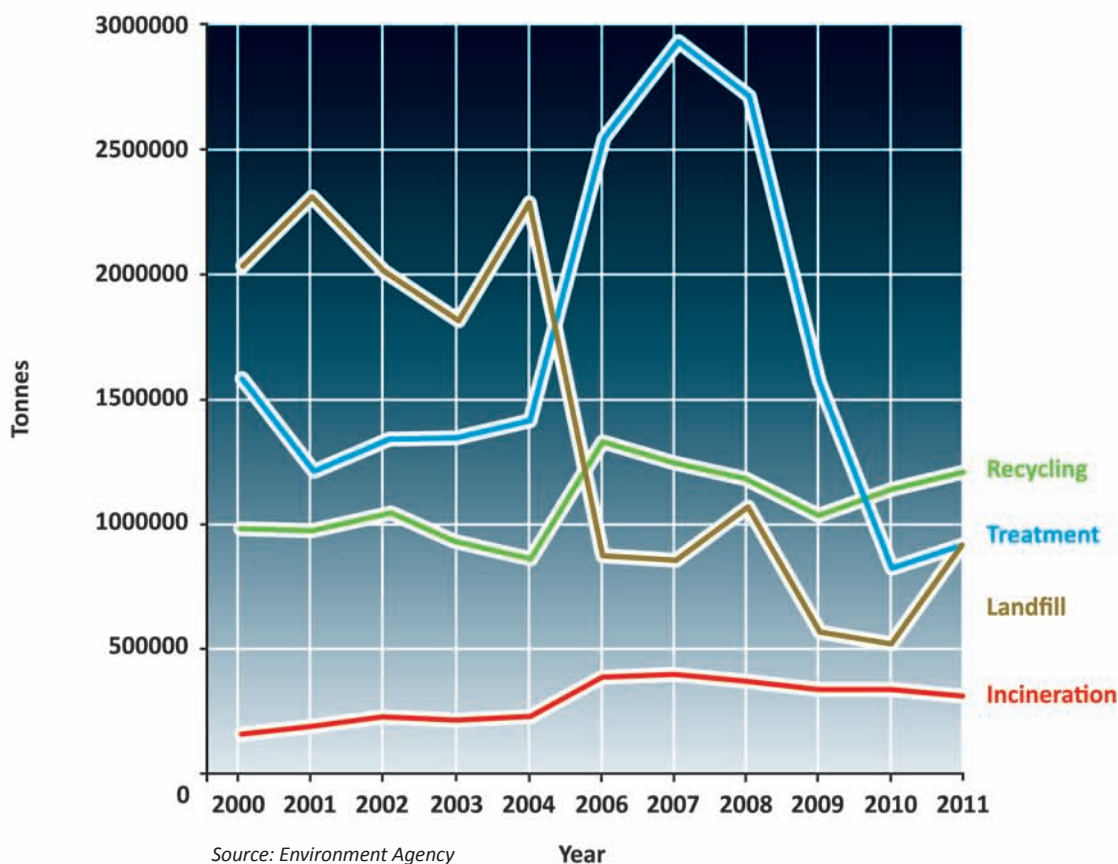
for the UK economy. The technologies used to treat hazardous waste include high temperature incineration (HTI), and thermal desorption, amongst other special facilities that have been developed for the treatment of cathode ray tubes, ozone depleting substances, air pollution control residues, contaminated soils, waste oils and other hazardous waste materials.

The provision and development of these technologies requires substantial investment, which ESA member companies are prepared to make provided there is certainty of markets, delivered through the proper enforcement of high standards of treatment.

Around 4.3 million tonnes of hazardous waste were moved in England and Wales in 2011, according to figures from the Environment Agency. Nearly a million tonnes went through a transfer facility before final disposal or recovery. Of the remainder 27% was landfilled, 9% was incinerated, a further 27% was treated, while 36% was recovered, recycled or reused. Provisional Environment Agency figures suggest that in 2011 around 173,000 tonnes of hazardous waste was exported, with the main destinations being Germany, Belgium, and France.

Hazardous Waste 2011: England and Wales

Hazardous waste deposit trends (fate)



2005 was a transition year with data from old and new hazardous waste systems. There were comparability problems and some data was missing so returns for 2005 have not been included in our trend analysis.

The increase in treatment between 2004 and 2007 was largely accounted for by a single plant on Teesside, which took in more than 1.6 million tonnes of liquid wastes by pipeline from nearby chemical processing plants in 2007.

The waste hierarchy and hazardous waste

European Union waste legislation requires the “waste hierarchy” to be applied to all types of waste as a priority order in Member States’ policy and legislation. The priority order is: waste prevention; preparing for re-use; recycling; other recovery e.g. energy recovery; and finally disposal.

For hazardous waste, “prevention” includes measures that reduce the harmful impact of hazardous waste on the environment and human health, and reduce the content of harmful substances in materials and products before they become waste, as well as reducing the quantity of hazardous waste produced.

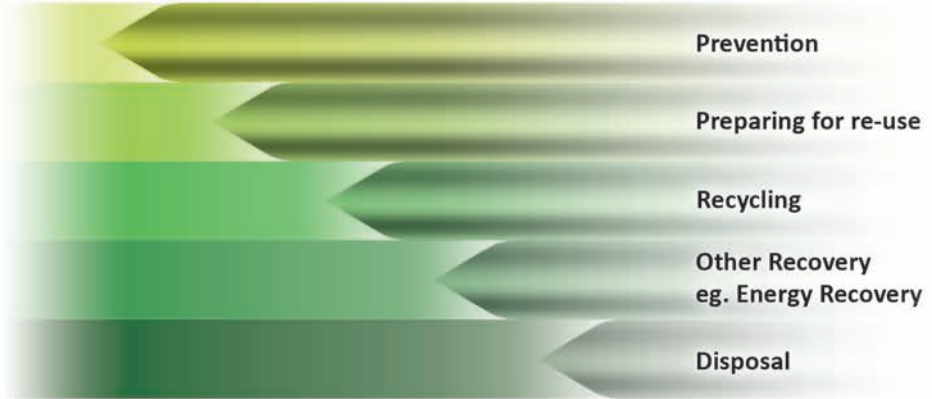
When applying the waste hierarchy Member States are required to take measures that encourage options that deliver the best overall environmental outcome. The EU legislation recognises that this may require specific waste streams departing from the hierarchy where this is justified by life-cycle thinking on the overall impacts of the generation and management of such waste. But this is very much the exception. The EU Commission’s guidance on the revised Waste Framework Directive states that derogating from the priority order should be an exemption for single waste streams and needs justification using life-cycle thinking.

The waste hierarchy

Most favoured
option



Least favoured
option



The Government's Strategy for Hazardous Waste Management

The Government's Strategy for Hazardous Waste Management in England was published in March 2010. Its main purpose is to clarify how EU requirements on hazardous waste should be implemented, and in particular how to give effect to the waste hierarchy. The strategy sets out the following six key principles:

- To apply the waste hierarchy to hazardous waste
- To facilitate the provision of infrastructure for management of hazardous waste
- To reduce reliance on landfill for hazardous waste
- To ensure hazardous wastes are not mixed or diluted
- To ensure best available techniques are applied to hazardous organic waste
- To end the use of derogations from the Landfill Directive

The Strategy contains a set of "decision trees" to help producers and managers of hazardous waste make decisions about the management of their wastes and to inform decisions about the investment in infrastructure needed to move hazardous waste up the waste hierarchy. The Strategy does not prescribe the treatment

techniques for every individual hazardous waste stream, but it is accompanied by guidance explaining in more detail how the government wants the waste hierarchy to be followed by those who produce, hold, keep, carry, treat, deal in or transfer hazardous waste.

The Strategy provides the foundation for the Government's National Policy Statement (NPS) on hazardous waste infrastructure in England. The draft NPS states that there is a need for the following nationally significant infrastructure:

- Waste electrical and electronic equipment plant
- Oil regeneration plant
- Treatment plant for air pollution control residues
- Thermal desorption
- Bioremediation/soil washing
- Ship recycling
- Hazardous waste landfill

The Government states in the Strategy and reiterates in the draft NPS that it looks to the waste industry to deliver this infrastructure.





07431

190 kg

499/0

516

7259

91 kg

1300

PO 8870

5009.00

Implementing the Strategy - the evidence so far

The ESA and its members fully support the Government's Strategy and the principles on which it is based. They believe it is imperative that the Strategy and its principles are fully implemented by Defra and the Environment Agency to provide the commercial and market certainty necessary for the industry to invest in the identified infrastructure.

ESA has commissioned research into hazardous waste treatment in England & Wales, which found that the data on hazardous waste is of poor quality. The research concluded that:

"Given the constraints and discrepancies in the data available for review it is difficult to see how regulators are able to track with confidence the fate of hazardous wastes and to confirm to their satisfaction that the wastes are being managed in the optimum manner in accordance with the waste hierarchy and with best available techniques where applicable."

In addition, ESA members are themselves aware of many examples of poor practice. For example:

- Tarry waste which is suitable only for thermal treatment being diverted to landfill through a soil treatment capable of treating only light organic contamination. The hazardous waste is mixed in the process so that the hazards are diluted in the output.

- Composting sites mixing hazardous liquids such as paint in the compost mix. The hazards are not treated but ultimately dispersed into the environment when the compost material is spread on land

It is thought to be significantly cheaper to export hazardous waste to facilities outside the UK for lower cost treatment which is further down the waste hierarchy, contrary to the aims of the Strategy and of the revised Waste Framework Directive. For example:

- Oily sludges are being exported to Europe to be incinerated in municipal incinerators when they could be treated in the UK by thermal desorption.

These problems often do not show up in the official statistics.

Such developments are potentially damaging to human health and the environment, here and/or elsewhere in the EU. If unchecked they would also be damaging to the UK economy. Companies which have invested in advanced treatment technologies on the understanding that the Strategy and the waste hierarchy would be enforced will suffer, and companies which are considering investing in the new nationally significant hazardous waste infrastructure - which the Government's draft NPS says is needed - will be deterred from doing so.

The ESA believes action is needed.





Packed
Tower

Warning
Hot
Surface

Oil Tank

Recommendations for action

In the light of the research findings, ESA is working with Defra and the Environment Agency to ensure that the Government's Strategy for hazardous waste is put into effect. Our specific recommendations for action are:

- 1** Defra and the Environment Agency must urgently implement the "Guidance on Applying the Waste Hierarchy to Hazardous Waste". This guidance has formal legal status under regulations 12 and 15 of the Waste (England and Wales) Regulations 2011, which transpose the revised Waste Framework Directive. Anyone who produces, transports, treats or exports hazardous waste must have regard to the Strategy for Hazardous Waste Management and the Waste Hierarchy Guidance for hazardous waste. This guidance must be publicised and promoted strongly, to ensure that the Government's Strategy and the EU's waste hierarchy provisions are fully implemented for hazardous waste.
- 2** The Environment Agency must be given the necessary resources to regulate and enforce the Strategy and the waste hierarchy guidance for hazardous waste under the WFD, and must give appropriate priority to this.
- 3** The EA and Defra should take urgent steps to improve the quality of data on hazardous waste movements and treatments so that a proper mass balance can be carried out to see where hazardous material is going to.
- 4** At EU level, representations should be made to the Commission for action against intra-EU trade in hazardous waste which is contrary to the waste hierarchy provisions of the revised Waste Framework Directive. The ESA believes that the proximity principle should apply to movements of hazardous waste within the EU, except where this would conflict with the waste hierarchy. ESA would like to see the Waste Shipments Regulation strengthened so that Member States' competent authorities are explicitly required to satisfy themselves that any intra-EU movements of hazardous waste are not destined for "sham recovery", or as a means of circumventing the waste hierarchy.

This should include reviewing existing environmental permits for hazardous waste treatment, to ensure that they reflect best available technology (BAT). For examples see the Annex.



Some examples of how hazardous waste treatment could be improved

Type of hazardous waste	Examples of what happens now	Treatments to achieve best environmental outcome (BAT/ waste hierarchy) all to be subject to appropriate environmental controls	Action needed by Defra and / or EA	Suggested timescale
Air pollution control residues	Landfill. Neutralisation followed by landfill. Stabilisation with contaminated soils. Containerisation prior to salt mine disposal. Washing for recovery. Carbonisation for use in breeze blocks. Manufacture of cement replacement products	Further development of opportunities for recycling and reuse	Defra and EA to withdraw derogation allowing landfill (WAC) Guidance on life cycle and BAT	To be decided by Defra and the Environment Agency in consultation with the industry
Contaminated soils	Landfill. In situ physico/ chemical treatment (eg. stabilisation). In situ biological treatment. Thermal treatment on or off site ie. thermal desorption. Sham recovery	Physical, chemical or thermal separation for subsequent recovery	Sector Guidance needed on soil management Better enforcement and improved standards for mobile operations	18 months from publication of guidance for mobile operations
Oily sludges	Landfill. Thermal Treatments. Energy recovery through cement kilns. Export to mainland Europe for energy recovery	Physical, chemical or thermal separation for subsequent recovery, eg. thermal desorption. Recovery of energy	Regulation of facilities practising landfill disposal for oily materials. Guidance on what constitutes recovery and recycling	Within next 12 months - technologies already established
Organic solvents	Recycling by distillation. Energy recovery in cement kilns. Incineration. Export to mainland Europe for incineration with energy recovery	Recycling eg. by distillation. Energy recovery in cement kilns. High Temperature Incineration. Thermal Desorption	Guidance on standards for energy recovery from HW incineration. Action against exports contrary to TFS and UK's waste shipments plan	Within next 12 months - technologies already established
Metal finishing acids	Neutralisation and filtration prior to landfill disposal	Recycling eg. by electrolysis. Recovery by precipitation followed by recycling via thermal treatment	Better segregation to facilitate recovery of individual metals	Within next 12 months - technologies already established



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association

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