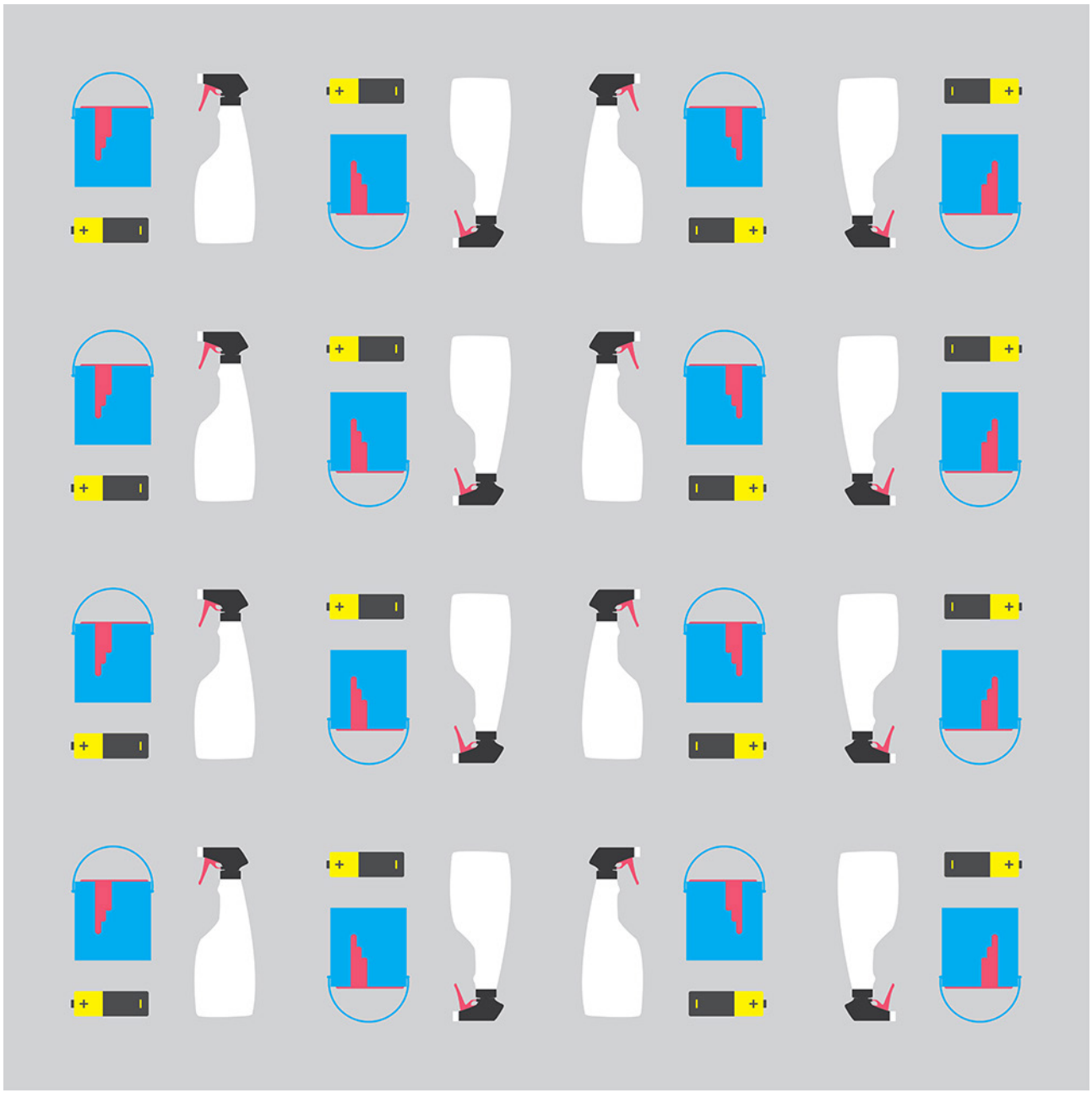

# LONDON'S HAZARDOUS WASTE

## A REPORT FOR THE MAYOR OF LONDON

JANUARY 2014

MAYOR OF LONDON

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The London Regional Technical Advisory Board

The Environment Agency

The City of London and London Borough of Hillingdon household hazardous waste service staff

London boroughs

The London Waste and Recycling Board

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## A REPORT FOR THE MAYOR OF LONDON

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# INTRODUCTION

The London Plan sets out a commitment to manage the equivalent of all of London's waste produced within the city by 2031 (100% net self-sufficient). To help achieve this the Plan identifies the amount of municipal and commercial and industrial waste (including hazardous waste) expected to arise in London up until 2031, and apportions tonnages to be managed across London's 33 local authorities (including the City of London).

London Plan waste policies:
www.london.gov.uk/priorities/planning/londonplan

At the London Plan Examination in Public in 2010 the Panel concluded that London's hazardous waste arisings are expected to increase in the short to medium term, and that London will need to be better prepared to cope with this waste. The Hazardous Waste Regulations 2005 defines hazardous waste as 'waste that contains hazardous properties such as flammable and carcinogenic substances that may harm human health or the environment'[1]. Hazardous waste includes asbestos, chemicals, oils, clinical waste, contaminated or infected waste and some waste electrical and electronic equipment (WEEE). If poorly managed this waste can be costly to deal with and have adverse public health and environmental impacts. Hazardous oils and chemicals for example can contaminate our water systems and asbestos can significantly harm people upon contact if not collected, treated and disposed of correctly.

The Inspector's Panel report recommended the GLA develop a strategy to provide and maintain direction on the need for hazardous waste management capacity. The Mayor accepted the EiP Panel's recommendation and amended Policy 5.19 in the Replacement London Plan July 2011 to indicate that further work would be undertaken to identify the capacity gap for dealing with hazardous waste and to provide and maintain direction on the need for hazardous waste management capacity.

Replacement London Plan EiP Panel's report:
www.london.gov.uk/london-plan-eip

In November 2011 the GLA published the Mayor's strategies for the management of all of London's waste including hazardous waste. These documents set out the Mayor's policies and proposals for reducing waste, boosting reuse and recycling performance and generating low carbon energy from waste remaining by developing new waste management infrastructure in London.

Mayor's Municipal and Business Waste Management Strategies:
www.london.gov.uk/publication/londons-wasted-resource-mayors-municipal-waste-management-strategy

This report is a non-statutory document setting out London's hazardous waste position and management arrangements using the best information available. It has been developed to help inform London's hazardous waste management capacity requirements and planning policy for the next iteration of the London Plan, due for publication (adoption) in 2015. Most of the information has been drawn from the Environment Agency's Hazardous Waste Interrogator tool which allows users to mine waste data arisings, management techniques, and locations of where hazardous waste is managed. The Interrogator is a useful tool for understanding UK hazardous waste movements, although there are some limitations to it including potential double counting due to some hazardous waste moving between a number of transfer facilities. Another limitation is that unknown quantities of hazardous waste

1 *See Appendix 1for a full list of hazardous waste types.*

managed at sites not registered with the Agency are not identified in the Interrogator. In developing this report some hazardous waste data and management information has also been drawn from local authorities and from hazardous waste facility and landfill operators to help address these limitations.

This report finally sets out recommendations for improving London's hazardous waste management arrangements. These aim to address the challenges for identifying capacity to sufficiently manage this waste, including the safe and cost-effective collection of household hazardous waste. In developing this report the GLA has sought views from London waste authorities, the London Regional Technical Body (on waste planning), the London Waste and Recycling Board and the Environment Agency.

## London's hazardous waste management – summary

In 2011 London produced about 320,000 tonnes of hazardous waste, representing about 1.5 per cent of London's total annual waste arisings (20 million tonnes[2]) or about 10 per cent of total annual UK hazardous waste arisings (3.3 million[3]). Most of London's hazardous waste (about 300,000 tonnes) comes from the commercial and industrial waste sector. The remaining 20,000 tonnes is estimated to come from households including batteries, paint and household cleaning and garden chemicals. Household hazardous waste almost always ends up in the domestic refuse collection system or in waste-waterways, and is therefore not accounted for in London's hazardous waste statistics. For consistency and transparency this waste is not included in reporting London's hazardous waste statistics for this document. Unless specified, all references to hazardous waste represent commercial and industrial hazardous waste as reported to the Environment Agency and made available through the Agency's Hazardous Waste Interrogator tool.

In 2011 about two thirds (205,000 tonnes) of London's hazardous waste was sent for recovery or treatment. 82,000 tonnes (or 27 per cent) was sent to landfills, mostly in the East Midlands and the South East. The remaining five per cent went to incineration (10,000 tonnes) and other management methods (5,000 tonnes). In addition, 60,000 tonnes of London's hazardous waste was managed at transfer stations around the country where it is bulked up for onward management. This takes London's total hazardous waste management capacity needs to around 360,000 tonnes in 2011.

Each year London sends about 85 per cent of is hazardous waste (255,000 tonnes in 2011) to the regions to be managed. In 2011 London managed about 45,000 tonnes (or 15 per cent) of its hazardous waste across 141 hazardous waste sites in the capital. Most of this waste (28,000 tonnes) went to London's only hazardous waste landfill in Greenwich. About 9,000 tonnes was sent to an oils incineration facility also in Greenwich and about 6,500 tonnes was managed at two treatment facilities in North London. The remaining 1,500 tonnes was managed at 59 smaller treatment and recovery sites across London. In addition approximately 18,000 tonnes of London hazardous waste was managed across 78 local transfer stations for onward management. London also managed around 35,000 tonnes of hazardous waste from neighbouring regions in 2011, most of which (19,000 tonnes) was managed at transfer sites for onward management.

The Mayor wants to see a step change in all of London's waste management to recover as much value as possible from this resource and to reduce the capital's reliance on landfill,

2 *The Mayor's Business Waste Strategy, GLA November 2011.*
3 *UK National Policy Statement for Hazardous Waste, Defra 2013*

particularly on landfills outside London. Recovering value from London's hazardous waste in a cost effective way will become increasingly important as more stringent treatment methods for managing this waste are needed to meet EU Directive requirements. There are likely to be significant economic opportunities for some hazardous waste types, in particular recovered electrical waste items due to increasing global demand for raw materials including precious and rare earth metals.

It is estimated that London will need to identify capacity to manage around 82,000 tonnes of hazardous waste it currently sends to landfills each year, plus any increase in hazardous waste arisings requiring management to make an effective contribution to meeting the London Plan waste net self-sufficiency targets. The Mayor is keen to better understand and exploit the economic opportunity that London's hazardous waste presents to inform the right treatment facilities needed to meet this capacity gap.

# 1 LEGISLATIVE AND POLICY FRAMEWORK

In developing this hazardous waste report the GLA has referred to the key European and national waste policy and planning frameworks, and to national waste policy and planning consultations undertaken in 2013, as summarised below.

## European Legislative Framework

The Waste Framework Directive (WFD) is the primary piece of European legislation providing the strategic framework for the management of waste for Member States, which the UK is one. The WFD has been revised several times since its inception in 1975, most notably in 2008 which required Member States to bring into force its laws, regulations and administrative provisions by December 2010 through the implementation of the revised waste hierarchy. The revised hierarchy, applied from the top down, requires Member States to undertake their waste management arrangements supporting waste prevention, preparing for re-use, recycling, other recovery such as energy recovery, and last and least desirably, disposal.

The 1991 Hazardous Waste Directive (HWD) provides the EU legislative framework for uniform hazardous waste management arrangements in all Member States. It was transposed into UK legislation by the 2006 Special Waste Regulations, which identified a list of hazardous wastes and requirements on how to handle and dispose of them in a controlled manner. This European list of wastes, commonly known as the European Waste Catalogue (EWC), was substantially revised in 2000 to include additional waste types and 180 newly classified hazardous wastes, mostly linked to waste electrical and electronic equipment (WEEE) not previously deemed to be hazardous. Many everyday items such as computer monitors, TVs, refrigeration equipment and some batteries may contain hazardous substances and therefore produce hazardous waste at the end of their lives.

The EU Landfill Directive 1999 applies specifically to waste sent to landfill. This Directive was amended in 2004 to prohibit the co-disposal of hazardous and non-hazardous waste to landfills. In 2005 the Directive was amended by the introduction of the Waste Acceptance Criteria, requiring all landfilled hazardous wastes to be pre-treated to minimise leaching of compounds and organic carbon content before it can be accepted by a landfill.

The Hazardous Waste (England & Wales) Regulations 2005, now part of The Waste (England & Wales) Regulations 2011, provides the national legal implementation of the WFD, HWD and the Landfill Directive. The 2005 Regulations require the UK to classify and report hazardous waste using the amended EWC, and holds producers responsible for arranging for the safe collection and disposal of hazardous waste prior to undertaking activities that would produce this waste. These requirements have had a significant impact on the amounts of hazardous waste arisings requiring management in the UK as increasing amounts of hazardous waste is removed from mixed commercial and local authority collected waste schemes (see National Policy Framework section below). The 2005 Regulations do not apply to hazardous waste produced by households.

The WEEE Directive 2012/19 came into force in August 2012, introducing a collection target of 45 per cent of electronic equipment sold from 2016, increasing to 65 per cent from 2019 or 85 per cent of electronic waste generated. These regulations will also place greater responsibility on retailers and manufacturers to accept used equipment – which in turn will create a greater demand and requirement for WEEE treatment. Member States are required to amend their WEEE legislation to align with the new Directive and revised targets by February 2014. The Government consulted on its plans to implement

the new Directive between April and June 2013, through the revision of the existing WEEE Regulations 2006. The revised Regulations are expected to be introduced into UK law in January 2014.

## Reporting the UK's hazardous waste

In 2006 the Environment Agency (EA) reported UK hazardous waste data for the first time under the 2005 Hazardous Waste Regulations. Data is reported using the EA's Hazardous Waste Data Interrogator (HWDI). This HWDI reports UK hazardous waste by EWC code, and the movement and management methods for this waste. Data from the 2006 HWDI is the starting point used in this document for reporting London's hazardous waste position. The EA collects and reports data on the UK's hazardous waste annually through the HWDI, with the 2011 HWDI being the most recent.

Hazardous waste is produced by a wide range of activities including from households, business, industrial processes and public services. A list of Standard Industrial Classification (SIC) codes developed by the Office for National Statistics is used to understand the industrial hazardous waste producers. SIC codes are used for classifying business establishments and other statistical units by the type of economic activity in which they are engaged[4]. SIC codes divide UK economic sectors into 17 divisions.

The combination of EWC and SIC codes are used throughout this document to understand the different types of, and management methods for, hazardous waste produced in London. The SIC codes refer to the waste producers based on their economic sectors. The EWC codes refer to the type of waste produced.

The Environment Agency is leading on the development of the electronic duty of care programme (EDOC) to deliver an online waste tracking system that allows more accurate monitoring and reporting of all waste flows throughout the UK. It is intended that EDOC will replace the current paper-based waste transfer note system and will improve the quality of waste data for both businesses and regulatory users, accessed through a dedicated online datastore. EDOC, scheduled to be rolled out nationally in 2014, will likely play an important role in better understanding London's hazardous waste types and movements to inform London waste planning policy.

Find out more at
www.environment-agency.gov.uk/aboutus/wfo/128930.aspx

## National Waste Policy Framework

In 2010 the Department for Environment, Food and Rural Affairs (Defra) published A Strategy for Hazardous Waste Management in England. This strategy offers practical applications for managing hazardous waste correctly to supplement the Hazardous Waste (England and Wales) Regulations 2005, and identified the following generic categories of nationally significant infrastructure projects likely to be needed to manage predicted increases in hazardous waste arisings:

- Waste electrical and electronic equipment plants
- Oil regeneration plant
- Treatment plant for air pollution control residues
- Facilities to treat oily wastes and oily sludges
- Bioremediation/soil washing to treat contaminated soil diverted from landfill
- Ship recycling facilities
- Hazardous waste landfill

In June 2011 the government published its Review of Waste Policy in England 2011. This document evaluates England's waste

4 *UK Standard Industrial Classification for Economic Activities 2003, The Stationary Office, 2002*

management policies and sets out the government's actions and commitment for moving England towards a zero waste economy.

### National Waste Planning Framework

In March 2011 the government published Planning Policy Statement (PPS) 10: Planning for Sustainable Waste Management, replacing Planning Policy Guidance Note 10, *Planning and Waste Management* published in 1999. This revised PPS forms part of the national waste management plan for the UK. It states that regional planning bodies and planning authorities should prepare planning strategies delivering sustainable development driving waste up the waste hierarchy and taking greater responsibility for the management of their own waste in relation to the location of waste infrastructure.

In November 2011 the Localism Bill became an Act of law, devolving greater powers to councils and neighbourhoods and giving local communities more control over housing and planning decisions. Local planning authorities must also address strategic planning issues through a new *duty to co-operate* as set out in an amended Section 33A of the Town and Country Planning Act 2004 (as amended) inserted through Section 110 of the Localism Act.

This duty requires planning authorities to 'engage constructively, actively and on an on-going basis' in carrying out certain defined strategic planning activities (including preparation of development plan documents and local development documents) relating to 'sustainable development or use of land that has or would have a significant impact on at least two planning areas including (in particular) sustainable development or use of land in connection with infrastructure that is strategic and has or would have a significant impact on at least two planning areas'.

Although the duty does not apply to the Mayor's preparation of the London Plan, the GLA Act imposes similar obligations on the Mayor to consult with neighbouring authorities. The Mayor is required to co-operate with planning authorities and waste planning authorities inside and outside London in the preparation of their plans, and they are required to co-operate with him. In October 2012 the Mayor published a discussion paper on cross-boundary co-operation on strategic planning for London and the wider metropolitan area. Following this officers from a number of authorities are exploring mechanisms to help facilitate improved co-ordination.

Read the paper at
www.london.gov.uk/sites/default/files/eip-ema-ED08_Cross_border_co-operation_discussion_paper_0.pdf

In March 2012 the government published the National Policy Planning Framework (NPPF), setting out its planning policies for England and how these should be applied. Paragraph 179 of the NPPF states the duty requires planning authorities to work together to address strategic planning issues, including waste planning, across boundaries and development requirements which cannot be wholly met within their own areas. This duty presents a fundamental change for waste planning authorities who now need to consult more widely on their waste plans, in particular with those authorities receiving their waste. Given that 85 per cent of the capital's hazardous waste and nearly half of all its waste is managed outside of London, mostly in landfills nearing the end of their life, this presents a unique challenge for London's waste planning authorities.

In June 2013 Defra published the government's National Policy Statement for Hazardous Waste: a framework document for planning

decisions on nationally significant hazardous waste infrastructure. The main objectives of government policy on hazardous waste are:

(a) To protect human health and the environment – stringent legislative controls are in place to control the management of waste with hazardous properties;
(b) Implementing the waste hierarchy – to produce less hazardous waste, using it as a resource where possible and only disposing of it as a last resort
(c) Self-sufficiency and proximity – to ensure that sufficient disposal facilities are provided in the country as a whole to match expected arisings of all hazardous wastes, except those produced in very small quantities, and to enable hazardous waste to be disposed of in one of the nearest appropriate installations;
(d) Climate change – to minimise greenhouse gas for climate change adaptation and resilience.

The NPS sets out the need and demand for more hazardous waste infrastructure, estimating the UK's annual hazardous waste arisings to have increased by 536,000 tonnes to 3.3 million tonnes between 2009 and 2010. This increase is largely the result of 'new hazardous waste' being considered under the revised EWC classification system, mostly WEEE waste. The trend is expected to continue given the impact of increasing producer responsibility schemes including the separate collection of WEEE and other hazardous waste materials, and further expected amendments to the EWC.

The NPS also provides guidance for developers on what should be included in their assessment of the potential impacts of a particular project, along with policy and guidance for local planning authorities (LPAs) in preparing their local impact reports The NPS may also be a material consideration in decision making on applications in England that fall under the Town and Country Planning Act 1990[5].

Find out more at
www.gov.uk/government/publications/hazardous-waste-national-policy-statement

In July 2013 the government published a Waste Management Plan for England for consultation. This plan is a compilation of existing national waste management information and policies, and reflects the conclusions of the government's Waste Policy Review 2011. Its content is determined by the requirements of Article 28 of the revised Waste Framework Directive 2008 requiring Member States to produce one or more waste management plans.

The Waste Management Plan for England is to be read alongside the revised PPS10 national waste planning policy also published for consultation in July 2013. The revised national waste policy places a strong focus on local development plans being the 'keystone' of the planning system and stressing the importance of close co-operation between waste planning authorities in determining appropriate waste site locations.

## Regional Policy Framework

The Mayor is required under the GLA Act 1999 to produce and keep under review the London Plan containing his policies and proposals for the recovery, treatment and disposal of waste produced in London. In preparing and revising the London Plan, the Mayor must have regard to, among other things, the National Waste Strategy which sets out the government's policies for how the UK is to achieve its commitments under the Hazardous Waste Directive (HWD) and the Landfill Directive. The next London Plan is being drafted in 2013/14 and is expected to be published (adopted) in 2015.

5 *Taken from the government's NPS on hazardous waste, June 2013.*

The current London Plan published in July 2011provides the planning framework for the management of London's waste (including hazardous waste) to enable the capital to be 100 per cent net self-sufficient for all its commercial and industrial waste and its municipal waste[6] by 2031. The London Plan apportions tonnages of this waste for each London borough to manage within its boundary to collectively meet the Mayor's self-sufficiency targets. Policy 5.17 requires London boroughs to allocate sufficient land and identify waste management facilities to provide capacity to manage the tonnages of waste apportioned by the Plan. For the purposes of meeting London Plan apportionment, waste is deemed to be 'managed' in London if:

- it is used in London for energy recovery
- it is compost or recyclate sorted or bulked in London for reprocessing either in London or elsewhere
- it is a 'biomass fuel' as defined in the Renewable Obligation Order.

Policy relating specifically to hazardous waste management is set out in London Plan Policy 5.19[7]. It states that the Mayor will produce a strategy to help inform the infrastructure requirements for London's hazardous waste, and to plan for this waste. In November 2011 the GLA published the Mayor's strategies for the management of all of London's waste including hazardous waste. These documents set out the Mayor's policies and proposals for reducing waste, boosting reuse and recycling performance and generating low carbon energy from waste remaining through the development of new waste management infrastructure in London.

In 2007 the GLA Act was amended to require London waste authorities to act in 'general conformity' with the Mayor's Municipal Waste Management Strategy, and placed a new duty on the Mayor to tackle climate change. The new statutory provisions also led to the creation of the London Waste and Recycling Board (LWARB) which must 'act in accordance' with the Mayor's Municipal Waste Management Strategy. LWARB's objectives are to promote and encourage waste reduction, an increase in the amount of waste that is reused or recycled, and the use of methods of collection, treatment and disposal of waste that are more beneficial to the environment. LWARB's 2013-15 Business Plan, found at **www.lwarb.gov.uk** , sets its priorities including:

- a £4.6m Efficiencies Programme aimed at helping local authorities to deliver efficiency savings and improved waste management performance through joint procurement, efficiency reviews, framework agreements, shared services, and good practice tools and workshops;
- a £16 million investment fund to support the development of new waste management infrastructure in London
- £4.3m to develop a London-wide Reuse Network. This network promotes waste reduction and reuse initiatives including for some hazardous waste including paint reuse schemes and waste electrical recycling.

Find out more at **www.londonreuse.org**

*6 For the purpose of the London Plan and this document, municipal waste refers to local authority collected waste*
*7 More details can be found at http://www.london.gov.uk/priorities/planning/londonplan*

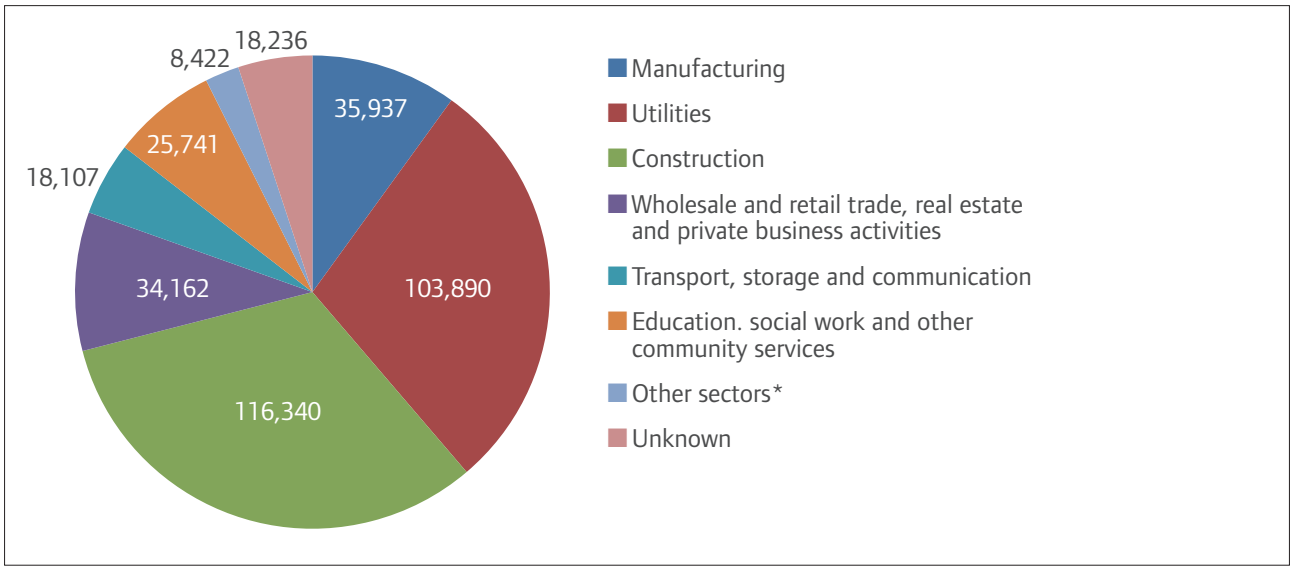
# 2 LONDON'S HAZARDOUS WASTE MANAGEMENT POSITION

## 2.1 LONDON'S HAZARDOUS WASTE ARISINGS

Figure 1 shows a breakdown of London's commercial and industrial hazardous waste management profile by sector in 2011. The breakdown is based on the UK Standard Industrial Classification (SIC) codes. It includes an additional 60,000 tonnes of hazardous waste requiring management at transfer stations for onward management, taking the total amount of waste for management by SIC code to 360,000 tonnes.

Hazardous waste from the Construction and Utilities sectors makes up the bulk of London's hazardous waste as shown in Figure 1 – 61 per cent or about 220,000 tonnes. London's construction activities produce the greatest amount of waste mostly comprising soil and stones contaminated with hazardous substances, and asbestos. The Utilities sector, which includes the electricity and gas industries, is the second largest producer of hazardous waste. Hazardous waste from this sector includes electrical switch fluid and fluorescent light tubes.

**Figure 1– London's hazardous waste by sector 2011: Total 360,000 tonnes***




*Source: Environment Agency 2011*

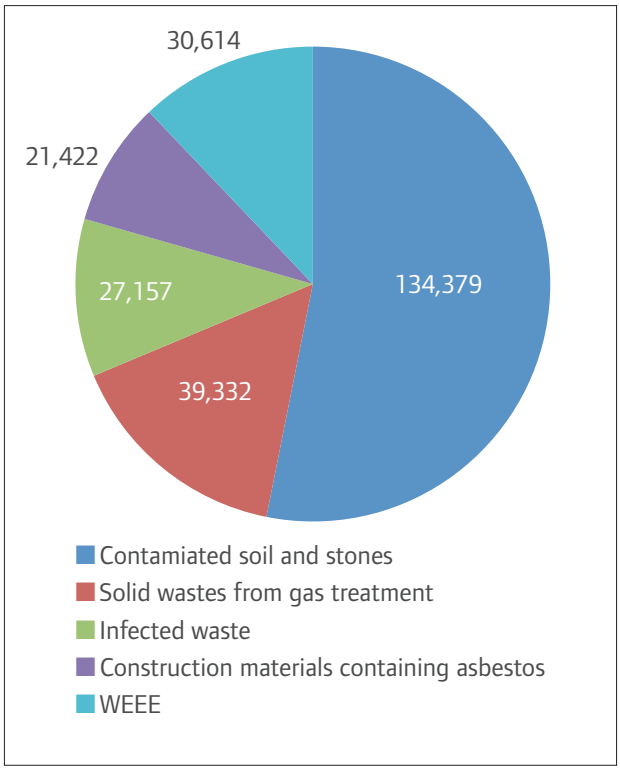
*Note: 'Other sectors' includes a variety of sectors, such as agriculture, hunting, forestry, fishing, mining, quarrying, hotels, restaurants, financial intermediation, public administration and defence sector. All these sectors combined produce about 8,000 tonnes of London's hazardous waste each year.*

**Includes additional 60,000 tonnes of hazardous waste sorted and bulked for onward management*

Figure 2 shows London's top five hazardous waste types in 2011 using the European Waste Catalogue (EWC) codes totalling 252,905 tonnes (including hazardous waste sorted and bulked for onward management). The remaining 107,095 tonnes is divided into about 235 different types of waste.

For a full list of the EWC codes visit [www.environment-agency.gov.uk/business/topics/waste/31873.aspx](www.environment-agency.gov.uk/business/topics/waste/31873.aspx)

**Figure 2 – Top five hazardous waste types, London 2011: Total 252,905 tonnes**




*Source: Hazardous Waste Data Interrogator, Environment Agency, 2011*
*WEEE – Waste Electrical and Electronic Equipment includes discarded electronic items (e.g. tvs, stereo equipment, fridge/freezers etc, fluorescent tubes and transformers*

London's commercial and industrial hazardous waste data comes from the Hazardous Waste Data Interrogator (HWDI). The HWDI has been published by the Environment Agency (EA) every year since 2006 since the Hazardous Waste (England and Waste) Regulations 2005 were transposed into law[8]. The HWDI registers hazardous waste producers and maintains the details of the waste as it moves through licensed waste management facilities including landfill. HWDI users are able to mine hazardous waste data in terms of where waste arises and where it is managed at a local and regional level.

## 2.2 LONDON'S HOUSEHOLD HAZARDOUS WASTE

Household hazardous waste makes up the remaining 20,000 tonnes (or 6 per cent) of London's hazardous waste produced each year. This figure is estimated based on waste compositional research undertaken in 2011 showing that hazardous waste represents about 0.53 per cent of England's municipal waste[9]. The City of London Corporation (the City) administers a household hazardous waste collection and disposal service (HWCDS) for residents across all 32 London boroughs except for the London borough of Hillingdon, which provides its own local service.

Each year the City's HWCDS collects around 300 tonnes of asbestos and 25 tonnes of liquid hazardous chemicals including paints, acids and mercury from residents, from Reuse and Recycling Centres and from reported fly tips. Hillingdon Council has an agreement with Grundon Waste Management to collect cement bonded asbestos from houses in the borough. In 2012-13 Grundons collected 184 sheets of this material collected, 8 bags of material and three tanks; the total cost of this was £9,354[10].

8 *See Chapter 1: Legislation and policy context*
9 *Detailed compositional assessment for municipal residual waste and recycling streams in England, Resource Future, 2011. London produced 3.6 million tonnes of municipal waste in 2011. It is assumed that household waste is similar in composition to municipal waste.*
10 *Provided by the London Borough of Hillingdon August 2013*

This suggests that the vast majority, or about 19,000 tonnes, of London's household hazardous waste is managed through the domestic waste collection systems or through London's waste water systems.

The City's HWCDS is a demand driven service whereby residents call the City to arrange an appointment for hazardous waste to be collected. If residents in other London boroughs call their own local authority they will be directed to the service. The service receives approximately 13,000 calls from all across London each year. Many of the calls come from residents or other borough officers seeking advice on hazardous materials and information on packaging/wrapping requirements. Around 3000 of these calls lead to collections of household hazardous waste from domestic properties, where it is recorded and taken to any of ten facilities outside London for management. All the asbestos collected is sent to landfills in the East Midlands, South East and the East of England. Collected chemicals are treated, neutralised and recycled where possible or sent for incineration. The full list of these facilities, along with more information on household hazardous waste services provided in Hillingdon can be found in Appendix 2.

Local authorities pay the City between £2,000 and £15,000 a year to use its hazardous waste collection service. The cost depends on how often the service is used which includes a collection cost plus a disposal cost based on the weight and type of the material collected. In Hillingdon up to six sheets of asbestos are collected free of charge, with any additional sheets collected recharged to residents at £12 plus VAT each.

A small number of reuse and recycling centres (RRCs) in London accept some types of household hazardous waste items, although there is considerable variation in what is accepted across this handful of sites accepting hazardous waste. The City collects household hazardous waste from RRCs sites across London and finds this to be more cost-effective than individual household collections. Such arrangements can also be more cost-effective for local authorities as increasing 'bulk' collections from RRC sites can reduce the number of individual household collections.

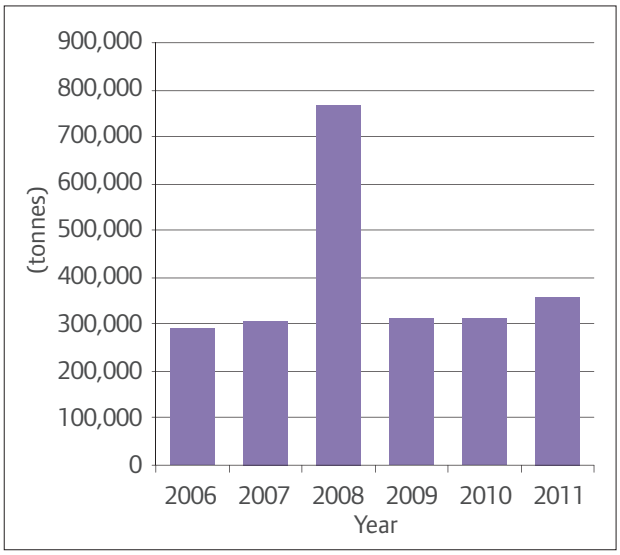
The City has experienced increasing demand for its collection services over the past few years, putting strain and increasing costs on a service only served by three vehicles. It believes that the HWCDS could be improved and made more efficient through:

- more education for residents regarding what constitutes hazardous waste and their recycling opportunities and
- better promotion of licensed household hazardous waste drop-off facilities at RRCs.

## 2.3 LONDON'S HAZARDOUS WASTE TRENDS SINCE 2006

The amount of hazardous waste London produces requiring management has increased from approximately 290,000 in 2006 to 360,000 in 2011 – a six per cent increase each year, with the exception of 2008. Figure 3 shows London's hazardous waste arisings by year requiring management between 2006 and 2011.

**Figure 3 – London's hazardous waste requiring management 2006-2011***



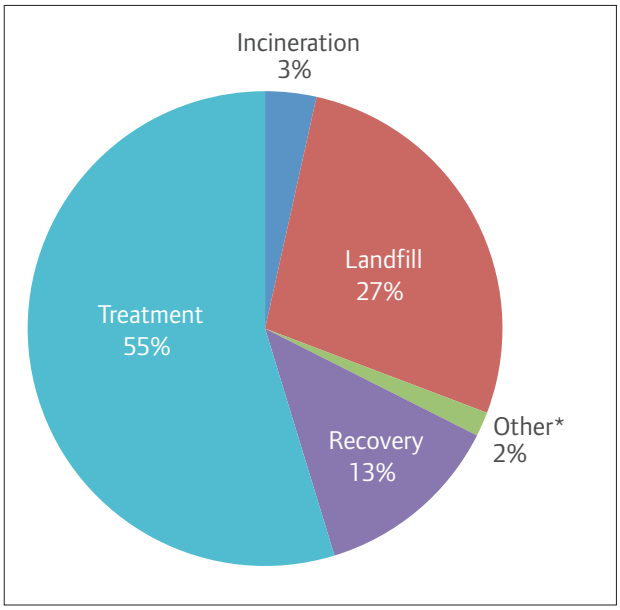

**includes circa 60,000 tonnes per year of hazardous waste sorted and bulked for onward management*
*Source: Hazardous Waste Data Interrogator, Environment Agency, 2011*

Figure 3 shows a sharp rise in London's hazardous waste arisings requiring management in 2008, with more than 765,000 tonnes of hazardous waste produced that year compared with 360,000 in 2011. This sharp increase is partly due to more hazardous waste being produced from construction and soil remediation activities than usual, which was responsible for about 45 per cent of hazardous waste produced in 2008 (usually 33 per cent). Crossrail construction activity and preparatory works for building the London 2012 Olympics site are considered to be largely responsible for the increase in London's hazardous waste management in 2008. Higher than usual amounts of hazardous waste from the Wholesale and Retail Trade, Real Estate and Private Business activities sector also contributed to the 2008 figure. This sector produced about 25 per cent (usually nine per cent) of London's hazardous waste in 2008, mostly made up of mixtures of oil with hazardous substances.

## 2.4 MANAGEMENT METHODS FOR LONDON'S HAZARDOUS WASTE

Figure 4 shows the breakdown of London's hazardous waste management methods in 2011. The breakdown represents total waste managed after any waste managed at transfer stations (approximately 60,000 tonnes). Figure 4 shows that around 27 per cent (or 82,000 tonnes) of London's hazardous waste went to landfill in 2011. Landfill was the dominant method for managing London's hazardous waste up until 2009. Between 2006 and 2008 about 35 per cent of London's hazardous waste went to landfill and only 24 per cent went to treatment. More hazardous waste has gone to treatment as a result of the Landfill (England and Wales) Regulations in 2005 requiring hazardous waste to be pre-treated to clean and/or recover recyclable materials before it can be accepted by a landfill. In many cases landfill is the only suitable and safe management method for some hazardous materials including asbestos and contaminated soils.

**Figure 4 – London's hazardous waste management methods 2011: Total 300,000 tonnes***




*Note: *'Other' method includes long term storage, rejected and 'other fate'*

**To avoid double counting, Figure 4 does not include approximately 60,000 tonnes of hazardous waste taken to transfer sites. This waste is bulked up and sent to landfill, treatment or recovery facilities.*

*Source: Hazardous Waste Data Interrogator, Environment Agency, 2011*

Figure 4 shows that about 68 per cent (about 204,000 tonnes) of London's hazardous waste went for treatment or recovery. Hazardous waste treatment involves physical, chemical or biological processing of waste to reduce its harmfulness or volume and to enable its recovery or disposal[11]. Washing the waste to remove contaminated substances is an example of hazardous waste treatment. After washing, it can be sent to a recovery facility to be reused or recycled. Washing hazardous substances to recover solvents for reuse for example can yield significant environmental benefits and avoid expensive disposal methods landfill (£95-£132 per tonne[12]) or solid and liquid hazardous waste incineration. A report published by the Environment Agency in 2004 estimated hazardous waste incineration costs can range from £250 – £950 per tonne[13]. Hazardous waste treatment can also be expensive depending on the technology, ranging from £20 – £90 per drum or £105 – £470 per tonne[14]).

Recovering value from increasing amounts of WEEE waste deemed to be hazardous under the Hazardous Waste Directive potentially presents the greatest economic opportunity to focus on given increasing demand for precious and rare earth metals. Discarded electric and electronic equipment including computers, mobile phones, televisions and refrigerators can be dismantled to separate out particular metals including cobalt, platinum, titanium, and rare earth elements, all of which are widely used in high-tech manufacturing. A report undertaken by WRAP in 2012[15] identifies demand for these materials is set to rise due to their value to different manufacturing sectors and the on-going concern already highlighted around supply security. The report quotes for example that global demand for rare earth elements, critical to mobile phones, flat screen TVs and computers, is forecast to grow at up to 11 per cent a year between 2012 and 2014.

The remaining five per cent of London's hazardous waste goes to incinerators (about 10,000 tonnes) and to other management methods (about 5,000 tonnes) including long term storage.

*11 Environment Agency, 2012*
*12 Gatefees report, WRAP 2013. Cost includes 2014 landfill tax rate of £72 per tonne.*
*13 Hazardous Waste Management Market Pressures and Opportunities: Background Paper, Environment Agency March 2004*
*14 Based on and assuming 1) One drum of oil is equivalent to 0.75 barrels and 2) Seven barrels is equivalent to one tonne.*
*15 WEEE recovery in the UK: the current situation and the road ahead, WRAP 2012*

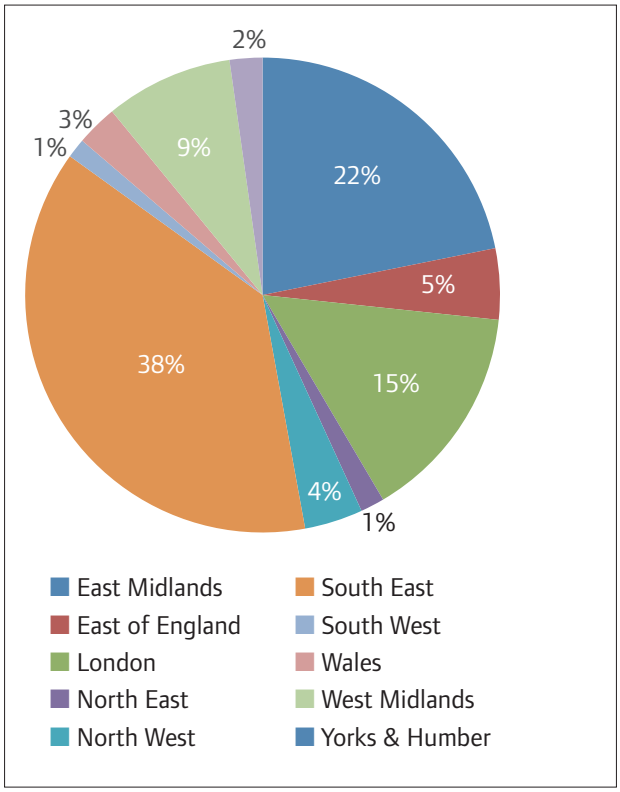
The Mayor is keen to better understand the economic opportunity and challenges for recovering value from London's hazardous waste to inform the types of treatment facilities that could be developed in London.

## 2.5 LONDON'S HAZARDOUS WASTE MANAGEMENT BY MANAGEMENT AREA

In 2011 around 45,000 tonnes or 15 per cent of London's hazardous waste was managed within London. The 85 per cent majority share (or 255,000 tonnes) of London's hazardous waste was sent to other regions in the UK, along with small amounts of contaminated soils exported to Belgium for treatment and reuse.

Figure 5 shows where London's hazardous waste was managed in 2011 across the UK. Over two-thirds of London's hazardous waste (nearly 70 per cent or 204,000 tonnes) was sent to the East Midlands, West Midlands, and South East of England. The remaining 15 per cent was managed in small proportions across the other regions.

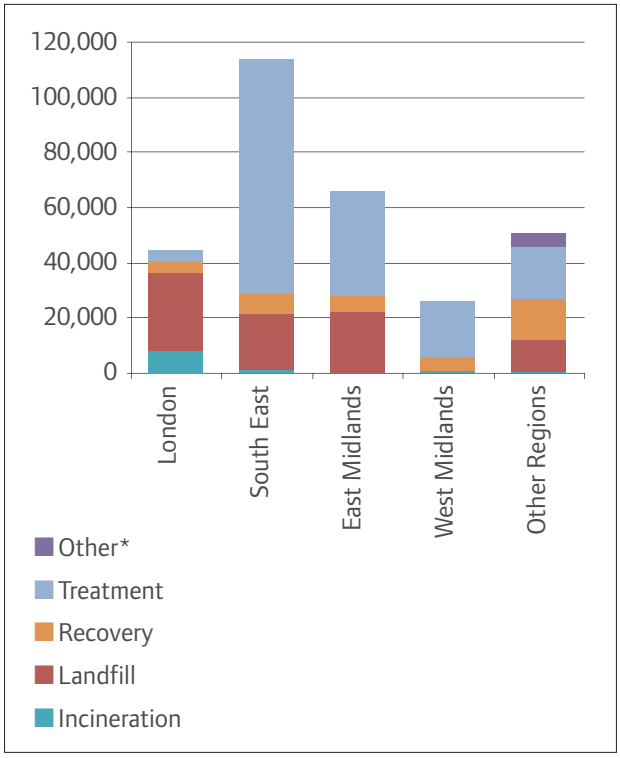
**Figure 5 – London's hazardous waste managed by UK region 2011: Total 300,000 tonnes**




*Source: Hazardous Waste Data Interrogator, Environment Agency, 2011*

Figure 6 shows the management methods and amounts of London's hazardous waste managed, broken down across four main UK regions (London, the South East, East Midlands and the West Midlands) managing this waste. Together these four regions managed around 83 per cent (or 250,000 tonnes) of London's hazardous waste in 2011.

**Figure 6 – Top four regions managing London's hazardous waste 2011: Total 300,000 tonnes.**




*Note: *'Other' method includes long term storage, rejected and 'other fate'*
*Source: Hazardous Waste Data Interrogator, Environment Agency, 2011*

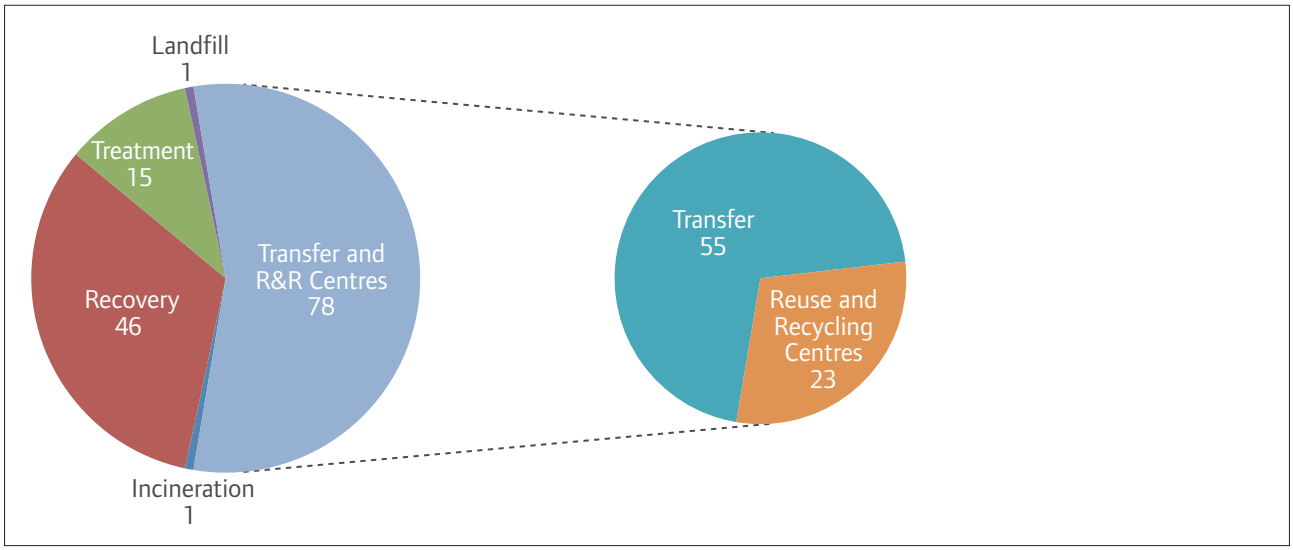
## 2.6 LONDON'S HAZARDOUS WASTE SITES

London has 141 sites (including one landfill) managing about 116,500 tonnes of hazardous waste each year. About one third of this waste (36,500 tonnes) is managed across 78 Transfer sites, where it is bulked up for onward management. The remaining 80,000 tonnes is managed in treatment facilities and one landfill across the other 63 sites. 35,000 tonnes of this waste comes from other regions and 45,000 tonnes from London.

Figure 7 shows that just over half (or 78 sites) of London's hazardous waste management sites are transfer facilities, 23 of which are Reuse and Recycling (R&R) sites where household hazardous waste can be dropped off, for onward management. There are 41 R&R sites in London receiving household waste from across London[16] but only 15 sites are recorded in the HWDI as accepting household hazardous waste in 2011. Hazardous waste accepted at R&R sites typically include paint, gas bottles and batteries. Around one third (or 46 sites) of London's hazardous waste sites are Recovery sites, most of which house car breaker and metal recycling facilities.

As far as the GLA knows there are no restrictions on London's hazardous waste sites to continue accepting this waste (with the exception of landfills as mentioned above). Figure 7 shows the breakdown of these sites by type in 2011.

**Figure 7 – Breakdown and number of London's hazardous waste site types 2011**




*Source: Hazardous Waste Data Interrogator and Waste Infrastructure Report, Environment Agency, 2011*

Most of London's hazardous waste managed in London is sent to the capital's only hazardous waste landfill (28,000 tonnes in 2011), located in Greenwich. About 9,000 tonnes of hazardous waste oil is treated at an incineration facility also in Greenwich. Approximately 6,500 tonnes of London's clinical and WEEE waste is managed at two waste treatment facilities in North London. The remaining 1,500 tonnes of London's hazardous waste is managed in small quantities across the other 59 Treatment sites and Recovery sites. More information on London's main hazardous waste management facilities can be found in Appendix 3

## 2.7 CHALLENGES FOR LONDON'S HAZARDOUS WASTE SENT TO LANDFILL

London sent about 82,000 tonnes of hazardous waste to landfill in 2011. About 70,000 tonnes (or 85 per cent) of this waste was sent to five landfills across the UK – one in Greenwich, one in Northampshire, and three in South East England. In preparing this report these landfills were reviewed with regard to capacity and any restrictions on receiving waste from London in the future. This can be summarised as follows:

### Tripcock Point, Greenwich: 28,000 tonnes per annum

Tripcock landfill has an annual permitted capacity of around 150,000 tonnes and only accepts contaminated soil and waste from construction and demolition activities. As far as the GLA is aware there are no capacity issues for continuing to accept London's hazardous waste, however there are restrictions on some hazardous waste types accepted including oily water and oil sludge. This material is disposed of in landfills located outside London. Tripcock landfill does not specify an end date in its planning permission.

### East Northants landfill, Northamptonshire East Midlands: 22,000 tonnes per annum

The East Northants landfill accepts the widest range of hazardous waste. It has the largest annual permitted capacity (around 250,000 tonnes per year). Its planning permission allows it to accept hazardous waste until 2016. The

landfill is in the process of extending this end date until 2026, however the extension will not go beyond 2026. Northamptonshire County Council has called for London to explore other options for the hazardous waste it currently sends to East Northants as the region is not planning to open any new hazardous landfill sites in the future.

### Pinden Quarry, South Pitt Phase 3, and Noorwood Farm East landfills, South East England: 20,000 tonnes combined per annum

In 2012 the EA confirmed that only Pinden Quarry of the three hazardous waste landfills in the south east has sufficient capacity to continue accepting London's hazardous waste. Pinden Quarry is permitted to accept London's hazardous waste until 2042 with annual permitted capacity around 127,000 tonnes a year. The other two landfill sites (South Pitt Phase 3 and Noorwood Farm East) are not considered suitable long term solutions because they only accept one type of hazardous waste (dust from cement kiln and residue from incinerators).

### Other landfills: 10,000 tonnes per annum

The remaining 10,000 tonnes of London's landfilled hazardous waste is sent to a number of landfills across the seven other regions in the UK.

Find out more about the landfills reviewed in Appendix 3.

Ultimately it is up to London's boroughs and waste planning authorities to consult with regions accepting their waste and to develop strategic plans for the management of their waste. Through the London RTAB the Mayor works with London's waste planning authorities and UK regions to better understand the movement of all London's waste sent to landfill, and to identify any capacity issues. The Mayor in partnership with the London RTAB has developed a contact database of personnel and waste tonnages received across London and the regions accepting most of London's landfilled hazardous and non-hazardous waste. Contact is made on an annual basis to review and update this information and to inform the Mayor's waste planning policy. This information will help inform opportunities for London to become more waste self-sufficient through new waste infrastructure and help reduce the capital's reliance on landfills in the regions. Find out how this can be achieved in the next Chapter.

# 3 PLANNING FOR LONDON'S HAZARDOUS WASTE

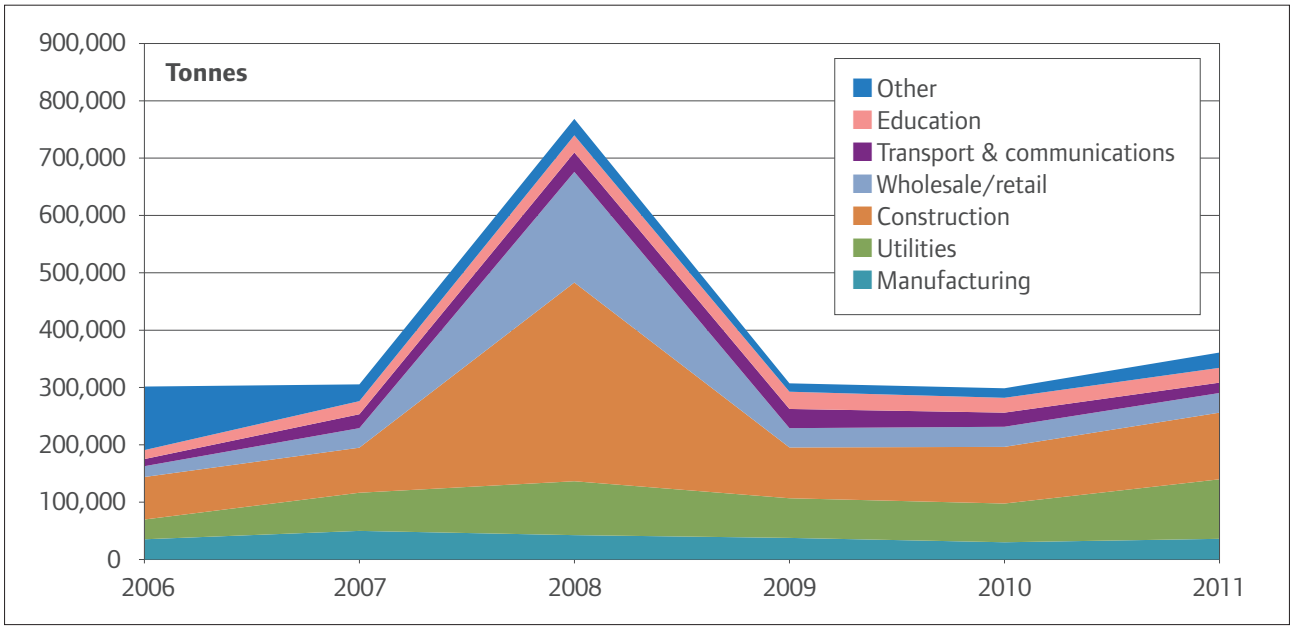
## 3.1 FORECASTING LONDON'S HAZARDOUS WASTE ARISINGS

London needs to plan for the hazardous waste it produces in order to make an effective contribution to meeting the London Plan net self-sufficiency targets. In particular it needs to plan for hazardous waste currently destined for landfill including opportunities for diverting as much of this waste as possible to reuse, recycling or energy recovery. It is difficult to accurately estimate and forecast the amount of hazardous waste arising and requiring management because 1) consistent data has only been available since 2006 and 2) landfill is currently the only suitable management route for some hazardous waste types including asbestos and contaminated waste.

Some assumptions can be made on which sectors of London's economy will produce more hazardous waste, although much of London's hazardous waste arisings will depend on how quickly the capital's economy recovers following the global financial crisis.

Figure 8 sets out London's hazardous waste performance by economic sector since 2006. The Manufacturing, Construction and Transport and Communications sectors only account for around 14 per cent of the London economy but together produce half of the capital's hazardous waste or about 170,000 tonnes (2011). Growth in these sectors is expected to have the greatest influence on London's hazardous waste arisings. Conversely the 'Other[17]' sector which includes financial services, business services and public administration combined account for two thirds of London's economic output, but only contributes around eight per cent of the total hazardous waste produced, or about 8,000 tonnes in 2011. As set out in Section 2.3 of this report, Crossrail construction activity and preparatory works for building the London 2012 Olympic Games are considered to be largely responsible for the sharp spike in London's hazardous waste management in 2008.

**Figure 8 – London's hazardous waste produced by economic sector 2006-2011**




*Source: Environment Agency, GLA Economics Team 2013*
*Includes 60,000 tonnes managed at transfer stations for onward management*

17 *'Other sectors' includes a variety of sectors, such as agriculture, hunting, forestry, fishing, mining, quarrying, hotels, restaurants, financial intermediation, public administration and defence sector*

London needs to reduce the amount of hazardous waste generated and move away from its reliance on landfill where possible. This can be achieved by preventing waste at source and increasing reuse and recycling of the waste generated. This needs to be supported by safe and cost effective waste collection systems and siting appropriate waste treatment infrastructure. The London Waste Recycling Board (LWARB) has developed a London Waste Map - an online tool that can help to identify potential waste sites. This is a London-wide geographic information system (GIS) map of London's waste management infrastructure. The map allows users to identify the most promising areas for waste infrastructure development including for hazardous waste. It can integrate waste sites identified in London with waste authority development plan documents, and also integrate waste management projects with energy, transport and other major utility development projects.

Find out more at
www.londonwastemap.org

### 3.2 RECOMMENDATIONS

The following are recommended to help plan for London's hazardous waste management.

1 **Continue working with partners to identify suitable sites to manage hazardous waste in London.**
In fulfilling London Plan apportionment policy, it is recommended that London waste planning authorities (WPAs) identify suitable sites for hazardous waste management in their waste development plans. In developing these plans, it is recommended that WPAs use the HWDI to understand the amounts of hazardous waste produced locally and where this waste is being managed. In late 2012 the GLA in partnership with the EA provided HWDI training for some London waste planning authorities. Further HWDI training and guidance could be explored if required.

It is also recommended that the GLA through RTAB work with LWARB to develop the London Waste Map to ensure it is up to date, accessible and relevant for London waste planning authorities in developing their waste development plans.

2. **Continue to monitor the capacity of waste management facilities (including landfill) accepting London's hazardous waste**
The GLA has been supported by the Environment Agency, London RTAB, county councils, and hazardous waste facility operators in gathering data for this report. It is recommended that the GLA through the London RTAB maintains regular contact with these partners to understand and record any capacity and operational issues of facilities (including landfills and new facilities) accepting London's hazardous waste. This information will assist London WPAs in consulting with the regions on their waste planning documents, and help inform the type and number of hazardous waste facilities needed in London. The information should be reviewed and updated annually.

It is also recommended that the GLA through the London RTAB, work in a facilitating capacity to help London WPAs fulfil their duty to co-operate requirements when developing their waste plans.

3. **Review the potential to divert London's hazardous waste to reuse, recycling or other forms of recovery in London**
It is recommended that the GLA work with Defra, the EA and other partners to

review the types and amounts of London's hazardous waste that could be most effectively and easily collected for reuse and recycling. This will help inform the economic opportunities for collecting specific hazardous waste materials, and inform the potential for developing new hazardous waste management facilities in London that could be supported by LWARB. Such a review should consider the opportunities and challenges of free or reasonably priced WEEE 'take-back' schemes provided by electrical and electronic manufactures via retail outlets.

The GLA could also work with LWARB to promote hazardous waste facility projects in developing LWARB's pipeline projects that receive funding.

**4. Improving London's household hazardous waste management**

It is recommended that the GLA through the London RTAB work with the London WPAs, LWARB and other partners to help reduce common household hazardous waste items from entering the domestic waste stream. This can be achieved through the provision of cost-effective and well communicated household hazardous waste recycling collection services. It could include working through LWARB's Efficiency Programme to:

- explore efficiency opportunities for expanding local recycling collection services to include small WEEE items such as batteries and small electrical items.

- explore efficiency opportunities with the City's and Hillingdon's household hazardous waste collection arrangements. This could include exploring opportunities for RRCs accepting more and different types of household hazardous waste to keep collection costs down. Drop-off opportunities could also be explored with GLA Group-owned sites that are permitted to accept hazardous waste.

- promoting local paint reuse and WEEE collection and drop-off services through the London Reuse Network.

**5. Review of hazardous waste data collection**

It is recommended that the GLA continue to work with the RTAB, the Environment Agency and the regions to improve hazardous waste data collection through the hazardous waste interrogator (HWDI) and the upcoming EDOC programme. This will improve local collection, reporting and forecasting of hazardous waste data to help inform London's hazardous waste management capacity requirements.

# APPENDICES

## APPENDIX 1 – PROPERTIES OF WASTES WHICH RENDER THEM HAZARDOUS

| | |
|---|---|
| H1 | 'Explosive': substances and preparations which may explode under the effect of flame or which are more sensitive to shocks or friction than dinitrobenzene. |
| H2 | 'Oxidizing': substances and preparations which exhibit highly exothermic reactions when in contact with other substances, particularly flammable substances. |
| H3-A | 'Highly flammable':<br>- liquid substances and preparations having a flash point below 21 E°C (including extremely flammable liquids), or - substances and preparations which may become hot and finally catch fire in contact with air at ambient temperature without any application of energy, or - solid substances and preparations which may readily catch fire after brief contact with a source of ignition and which continue to burn or to be consumed after removal of the source of ignition, or - gaseous substances and preparations which are flammable in air at normal pressure, or - substances and preparations which, in contact with water or damp air, evolve highly flammable gases in dangerous quantities. |
| H3-B | 'Flammable': liquid substances and preparations having a flash point equal to or greater than 21 E°C and less than or equal to 55 E°C. |
| H4 | 'Irritant': non-corrosive substances and preparations which, through immediate, prolonged or repeated contact with the skin or mucous membrane, can cause inflammation. |
| H5 | 'Harmful': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may involve limited health risks. |
| H6 | 'Toxic': substances and preparations (including very toxic substances and preparations) which, if they are inhaled or ingested or if they penetrate the skin, may involve serious, acute or chronic health risks and even death. |
| H7 | 'Carcinogenic': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce cancer or increase its incidence. |
| H8 | 'Corrosive': substances and preparations which may destroy living tissue on contacts. |
| H9 | 'Infectious': substances containing viable micro-organisms or their toxins which are known or reliably believed to cause disease in man or other living organisms. |
| H10 | 'Teratogenic': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce non-hereditary congenital malformations or increase their incidence. |
| H11 | 'Mutagenic': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may induce hereditary genetic defects or increase their incidence. |
| H12 | Substances and preparations which release toxic or very toxic gases in contact with water, air or an acid. |
| H13 | Substances and preparations capable by any means, after disposal, of yielding another substance, e.g. a leachate, which possesses any of the characteristics listed above. |
| H14 | 'Ecotoxic': substances and preparations which present or may present immediate or delayed risks for one or more sectors of the environment. |

*Source: Hazardous Waste (England and Wales) Regulations 2005*

## Notes

1 Attribution of the hazard properties 'toxic' (and 'very toxic'), 'harmful', 'corrosive' and 'irritant' is made on the basis of the criteria laid down by Annex VI, part I A and part II B, of Council Directive 67/548/EEC of 27 June 1967 of the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (1), in the version as amended by Council Directive 79/831/EEC (2).

2 With regard to attribution of the properties 'carcinogenic', 'teratogenic' and 'mutagenic', and reflecting the most recent findings, additional criteria are contained in the Guide to the classification and labelling of dangerous substances and preparations of Annex VI (part II D) to Directive 67/548/EEC in the version as amended by Commission Directive 83/467/EEC (1).

## Test methods

The test methods serve to give specific meaning to the definitions given in Annex III. The methods to be used are those described in Annex V to Directive 67/548/EEC, in the version as amended by Commission Directive 84/449/EEC (2), or by subsequent Commission Directives adapting Directive 67/548/EEC to technical progress. These methods are themselves based on the work and recommendations of the competent international bodies, in particular the OECD.

## APPENDIX 2 – LONDON'S HOUSEHOLDS HAZARDOUS WASTE COLLECTION ARRANGEMENTS

The City of London Corporation (the City) provides a Hazardous Waste Collection and Disposal Service (HWCDS) for residents in 31 London boroughs as well as for its own residents. This service collects small quantities of cement bonded asbestos and various chemicals including acids and organic flammable substances.

Residents or boroughs that request a household hazardous waste collection fill out a form setting out what they want collected prior to collection time. Residents are responsible for dismantling and wrapping/packaging the hazardous waste for collection. Collections are typically undertaken within ten working days of the collection request being logged.

More information can be found at www.cityoflondon.gov.uk

### Hillingdon

The London Borough of Hillingdon provides its own household hazardous waste collection service for its residents. The service is provided by Grundon Waste Management, whom the borough has had a long standing relationship with. Hillingdon's collection service operates in a similar way to the City's HWCDS.

Household hazardous waste collected in Hillingdon is mostly made up of asbestos (household collections provided) and batteries. Hillingdon residents can dispose of their hazardous waste at any of three RRCs in the borough - in South Ruislip, West Drayton and Harefield. Advance notice is required and some charges may apply. All three sites accept various household hazardous waste types including batteries, WEEE waste, contaminated soil and car engine oil. However only the South Ruislip site accepts bonded asbestos.

Residents can also leave household/portable batteries at any of the 27 libraries in the Borough. In addition retail outlets selling batteries should offer a take back service/ battery bin.

Collected asbestos goes to Wingmoor Farm hazardous waste landfill site in Bishops Cleeve Gloucestershire

More information can be found at www.hillingdon.gov.uk

## WASTE FACILITIES USED FOR MANAGING WASTE COLLECTED BY THE CITY OF LONDON'S HAZARDOUS WASTE COLLECTION AND DISPOSAL SERVICE

All wastes collected under the City of London contract are transported back to PHS Wastemanagement at Stevenage prior to being sent on for treatment, recovery or disposal to any of the following sites:-

### 1. TRADEBE – South East of England

Fawley Thermal Treatment Centre, Charleston Road, Hardley, Hythe, SO45 3NX
Permit No: HP3930TM
High Temperature Incineration – Incinerable Solids and Liquids including Organic and Inorganic materials. E.g. Non-Reactive Chemicals, Oxidising Agents, Reactive Chemicals, Alkali and Acidic Solids, Pesticides, Solvents and Resin/Adhesives.

**2. RRM LTD (PHS WASTEMANAGEMENT) – West Midlands**
Unit 12 Fourways, Carlyon Road Industrial Estate, Atherstone, Warwickshire, CV9 1JG

Permit No: DP3337SB
Treatment and Consolidation– Solvents, Resins, Paints, Aqueous Solutions. Recycling – Glass and Packaging

**3. DE-PACK LIMITED (PHS WASTEMANAGEMENT) – East Midlands**
Wymeswold Industrial Park, Burton on the Wolds, Leicester, LE12 5TR
Licence No: EAWML/43679
Treatment and Recovery – Aerosols and Gas Canisters.

**4. AWA REFINERS LTD – East of England**
Unit 10 Mead Industrial Park, Templefields, River Way, Harlow, CM20 2SE
Licence No: 278/94
Recovery – Mercury and Precious Metals

**5. VEOLIA ENVIRONMENTALSERVICES LTD – West Midlands**
James Road, Tyseley, Birmingham, B11 2BA
Permit No: WP3239SJ
Incineration – Clinical and Pharmaceutical waste.

**6. REFORMATION LTD (PHS WASTEMANAGEMENT) – North West**
Tollgate Crescent, Burscough Industrial Estate, Burscough, L40 8TC
Permit No: BK3301/C
Treatment and Recovery – Solvents, Paint, Aqueous Solutions.

**7. AUGEAN PLC – East Midlands**
Kings Cliffe Landfill Site, Stamford Road, Kings Cliffe, PE8 6XX
Licence No: BK2259
Disposal – Asbestos Waste

**8. MERIDIAN TECHNICAL SERVICES LTD – South East of England**
14 Hailey Road, Erith, Kent, DA18 4AP
Licence No: EAWML/83425
Treatment, Recovery and Disposal – Gas Cylinders and Extinguishers

**9. PINDEN LTD – South East of England**
Pinden Quarry, Green Street, Longfield, Dartford, Kent. DA2 8EB
Licence No: WML 19473
Disposal – Asbestos Waste

**10. LAFARGE AGGREGATES – East of England**
Roxwell Landfill Site, Chignal St James, Nr Chelmsford, Essex. CM1 4LT
Licence No: PP 3135SU
Disposal – Asbestos Waste

All material handled at all these sites is in accordance with the Hazardous Waste (England and Wales) Regulations 2005 and the Environmental Protection Act 1990 (see Method Statement M3)

Waste Management Licences and Pollution Prevention and Control Permits do not have expiry dates. Before a licence or permit can be wholly or partially surrendered an application to the Environment Agency must be made by the Operator. For the application to be successful the Operator must be able to demonstrate to the Environment Agency that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

## APPENDIX 3 – LIST OF MAIN FACILITIES ACCEPTING LONDON'S HAZARDOUS WASTE 2011

- Three treatment facilities accepting 15,493 tonnes
- Five landfills accepting 71,000 tonnes
- Total waste managed: approximately 86,493 tonnes

| Permit Ref | WIP Category | WIP Sub Category | Operator Name | Facility Name | Facility Address | Sub Region | |
|---|---|---|---|---|---|---|---|
| WP3930UD | Hazardous waste treatment | Oil treatment | Associated Reclaimed Oils Limited | Associated Reclaimed oils Waste Oil and Garage Waste Treatment and Transfer Facility | | South East London | |
| 80770 | Specialist treatment | WEEE | B J Electronics (UK) Ltd | | Unit 8 Ravenswood Ind Estate, Shernhall Street, Walthamstow, London, E17 9HQ | North London Waste Authority | |
| 80350 | Specialist treatment | Clinical Waste | Polkacrest Ltd | Chase Farm Hospital | Chase Farm Hospital, The Ridgeway, Enfield, Middlesex EN2 8JL | North London Waste Authority | |
| TP3430GW | Landfill | Hazardous Merchant | Augean South Limited | East Northants Resource Management Facility | Stamford Road, Kingscliffe, Peterborough PE8 6XX | Northants | |
| EP3135PE | Landfill | Hazardous Merchant | Tilfen Land Limited | Tripcock Point | Facility 3, Off Central Way, London SE28 0AB | South East London | |
| BV1674IL | Landfill | Hazardous Merchant | Pinden Limited | Pinden Quarry | Dartford, Kent DA2 8EB | Kent | |
| RP3039SZ | Landfill | Hazardous Restricted | LaFarge Cement UK Plc | South Pit Phase 3 Landfill | Manor Way, Swanscombe, Kent DA10 0LL | Kent | |
| WP3439SS | Landfill | Hazardous Restricted | Waste Recycling Group (Central) Limited | Norwood Farm Landfill (East) | Lower Road, Isle of Sheppey ME12 3AJ | Kent | |

| | Planning Region | Permitted Annual Tonnage | Tonnage received from London | Details | Multi Activity (yes or no) | Multi Activity Details |
|---|---|---|---|---|---|---|
| | London | 10,000 | 9,102 | Physically treates sludges and waste oils ond other garage wastes | Yes – different permit | Waste treatment and storage for recovery. |
| | London | <5,000 | 4,708 | WEEE Treatment | No | None |
| | London | 4,999 | 1,683 | Microwave | No | None |
| | East Midlands | 249,999 | 22,267 | Expired: 2016, applying for extension until 2026 | No | None |
| | London | 150,000 | 28,403 | | Yes – same permit | Landfill gas engine under same permit |
| | South East | 127,200 | 20,329 | Expired: 2042 | No | None |
| | South East | 40,000 | | Only accepts dust from kiln | No | None |
| | South East | 100,000 | | Have environmental issues - will be closed soon | No | None |