

Waste Management in the UK

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The Chartered Institution
of Wastes Management

- **CIWM**
- **Waste Industry in the UK**
- **Performance against targets**
- **Waste Strategy Drivers**
- **Waste Strategy Issues**
- **Dilemmas**
- **Case Study**
- **Summary**



About CIWM

- **Founded 1898**
- **Royal Charter from HM Queen 2002**
- **Approx 7,000 Members**
- **10 Regional Centres**
- **Members in all Sectors of the Industry**



CIWM activities

- **Scientific and Technical**
- **Publications**
- **Education and Training**
- **Consultation with Government and Other Bodies**
- **Membership Services**
- **Commercial Activities - IWM Business Services**



CIWM activities

- **Annual Conference**
- **Seminars & Workshops**
- **Vocational Training Courses**
- **Qualifying Courses**
- **Monthly Journal**
- **CWRM**
- **Library**
- **Careers Advice**



CIWM activities

- **Publication of Technical Guidance Documents**
- **Consultee to Government**
- **Major Exhibitions of Plant & Equipment**
- **Consultants Register**
- **Arbitration Service**
- **ISWA national member**



Special Interest Groups

- **Biological Treatment**
- **Hazardous waste**
- **Healthcare waste**
- **Waste Regulation**
- **Thermal Treatment**
- **Waste Prevention**
- **Collection, cleansing and recycling**
- **Waste strategy**
- **Health & Safety**



United Kingdom



UK Legislation

- **European - Brussels**
- **UK/England**
 - Westminster Parliament
 - House of Commons (Elected)
 - House of Lords (Hereditary & Appointed)
- **National Assemblies/Governments**
 - Scotland – Edinburgh
 - Wales – Cardiff
 - Northern Ireland - Belfast



UK Government Departments

- **Department for Environment, Food & Rural Affairs (DEFRA)**
 - Policy
 - Legislation
 - Interpretation
- **Department for Business, Innovation & Skills (BIS)**
 - Advice to Industry at large
 - Producer responsibility
- **Department of Energy & Climate Change (DECC)**
 - Climate change
- **Department for Communities and Local Government (DCLG)**
 - Planning
- **Treasury**
 - taxation and funding



Local Government responsibilities

- **Waste Collection Authorities**
 - **Municipal waste collection**
 - **Recycling collection**
 - **Street cleansing**
 - **Litter**



Local Government

- **Waste Disposal Authorities**
 - **Municipal waste disposal**
 - **Provision of local collection points**
- (CA)**
 - **Waste strategy**
 - **Planning**



Waste and Environmental Regulation

- **England and Wales – Environment Agency**
- **Scotland – Scottish Environment Protection Agency (SEPA)**
- **Northern Ireland – Northern Ireland Environment Agency**



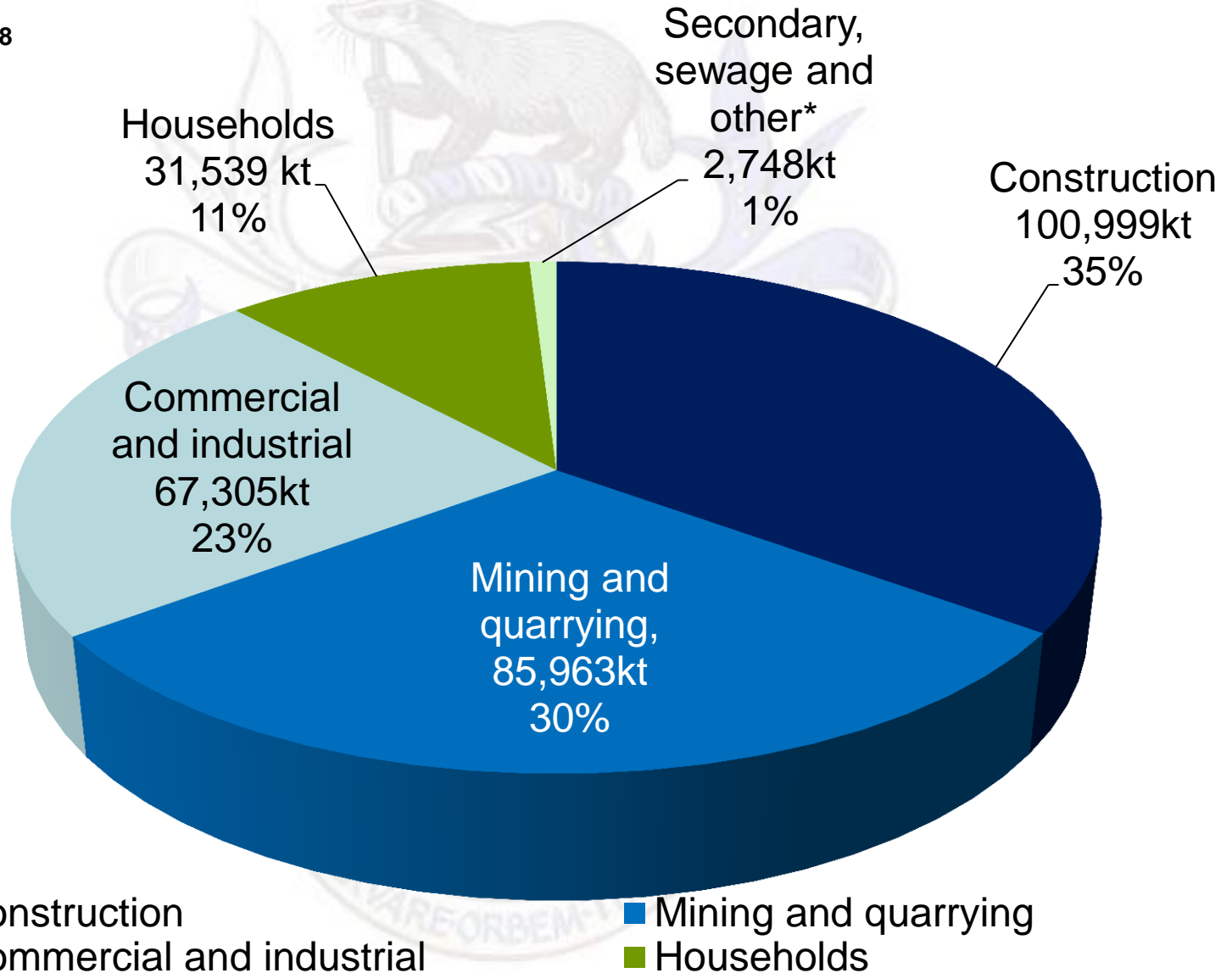
Regulators activities

- Regulation of waste activities
- Regulatory Guidance
- Technical advice
- Site Monitoring
- Standards
- Research
- Data management



Total UK Waste Generation by Sector

Defra 2008



■ Construction

■ Commercial and industrial

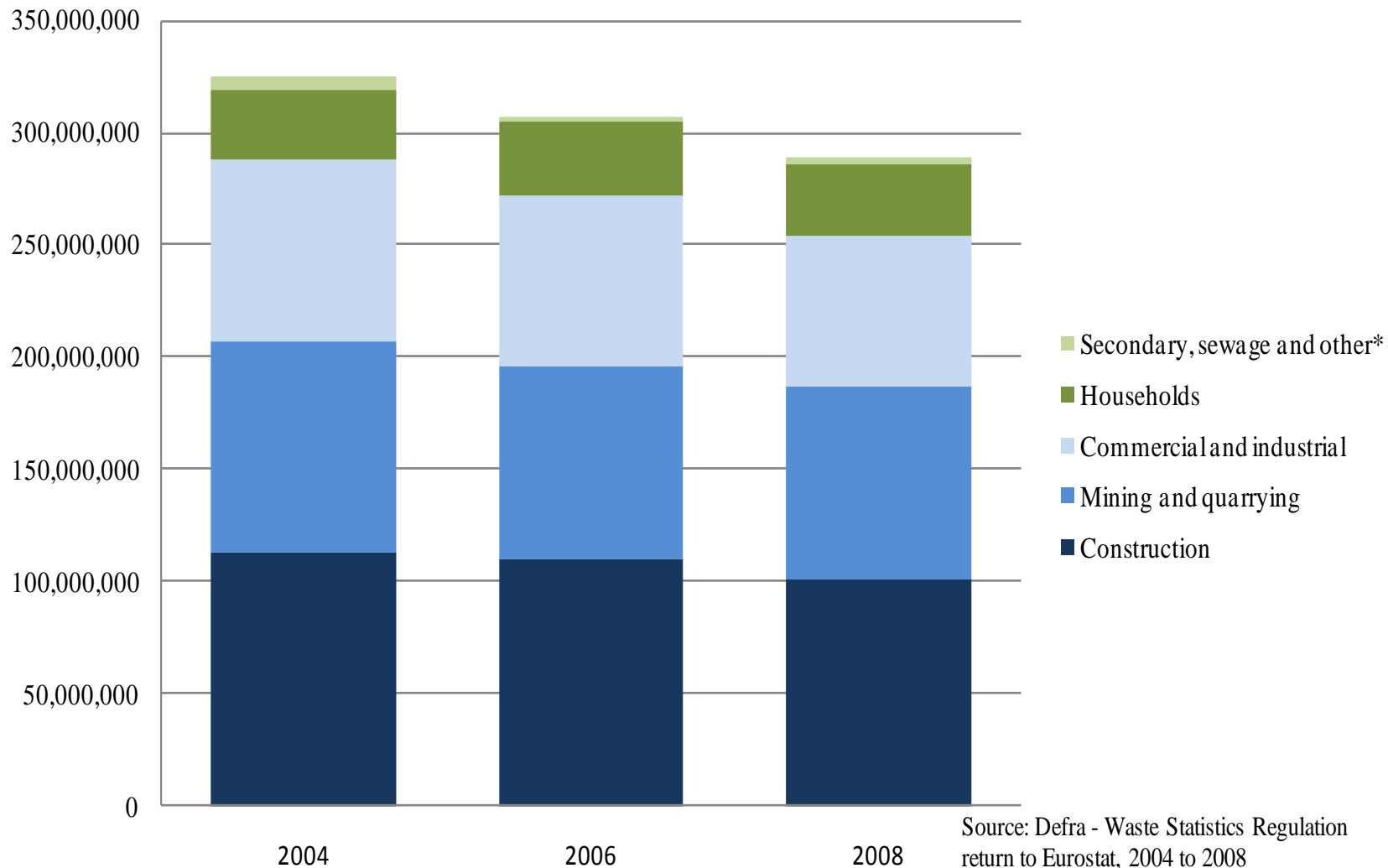
■ Mining and quarrying

■ Households



Total UK Waste Generation by Sector

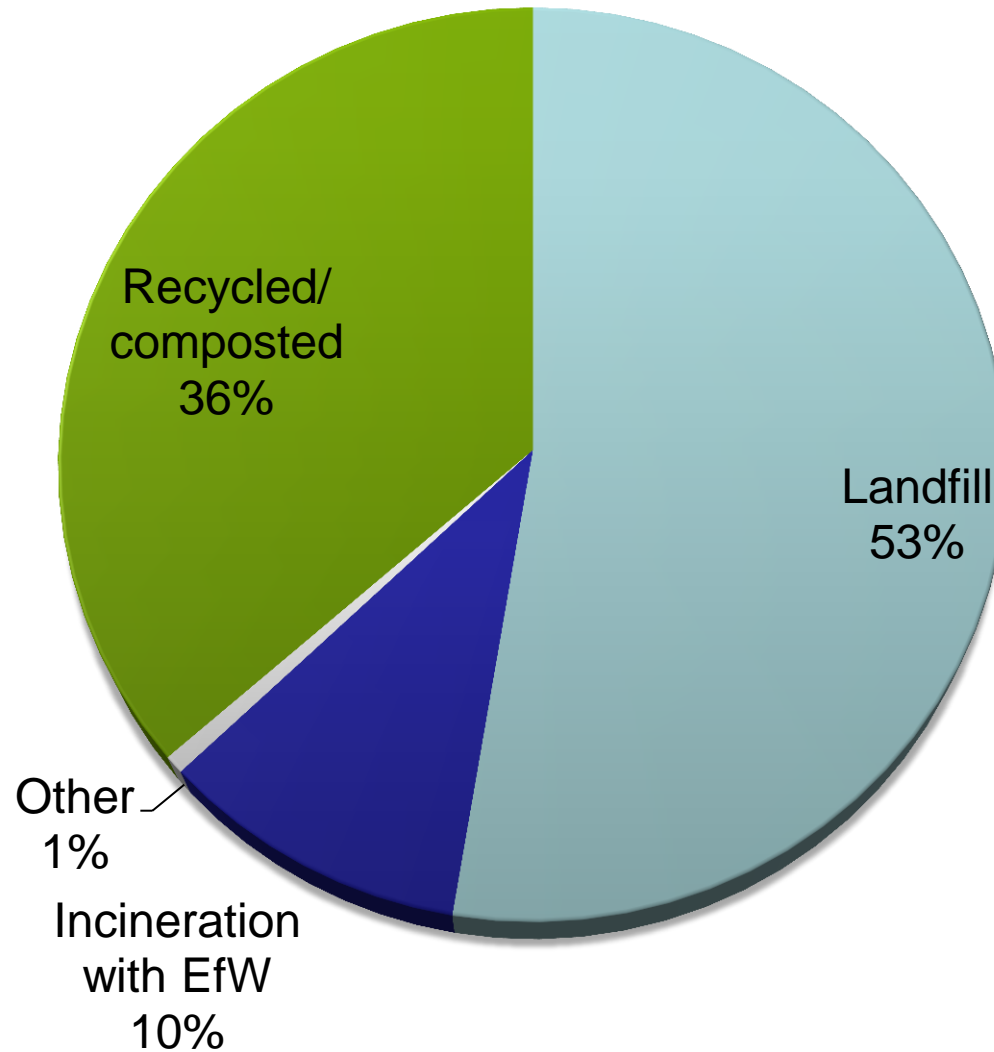
Total waste generation by sector, UK, 2004 to 2008 (tonnes)



Source: Defra - Waste Statistics Regulation return to Eurostat, 2004 to 2008

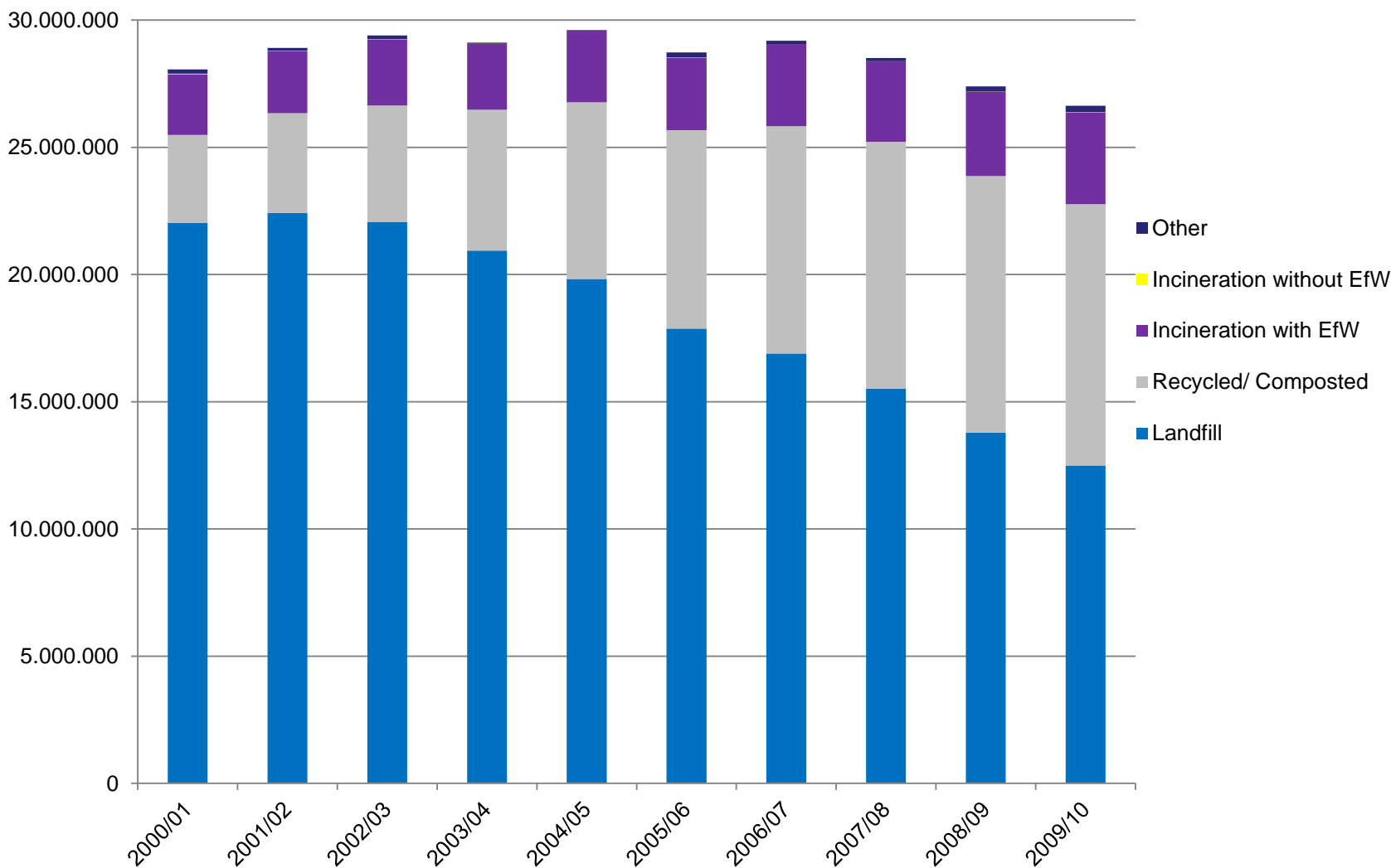


United Kingdom Municipal Waste Management 2008/9



Municipal Solid Waste Management

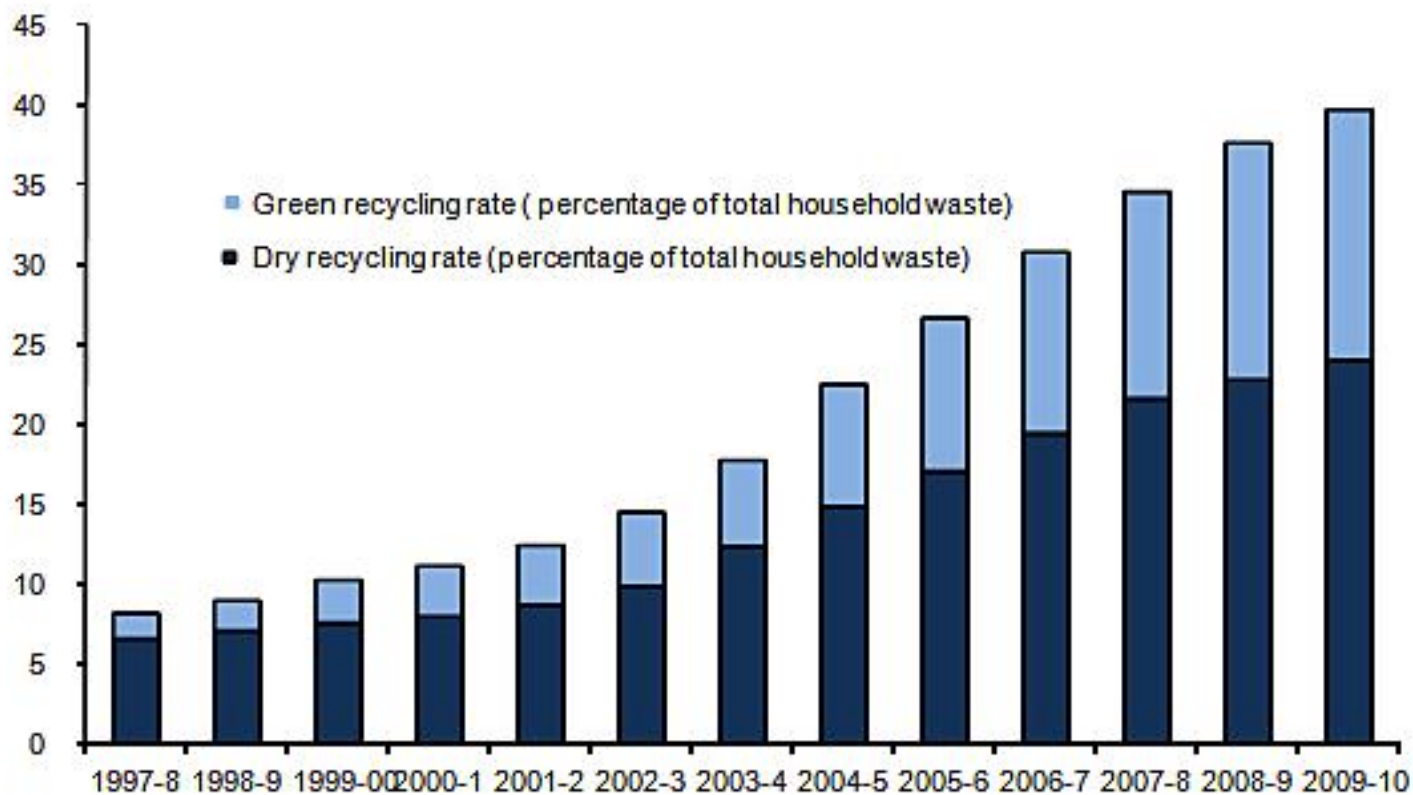
Municipal Waste Management Methods in England 2000/01 to 2009/10 (tonnes)



England – Progress since 1997

Household waste: green and dry recycling rates: England, 1997-8 to 2009-10

percentage recycled

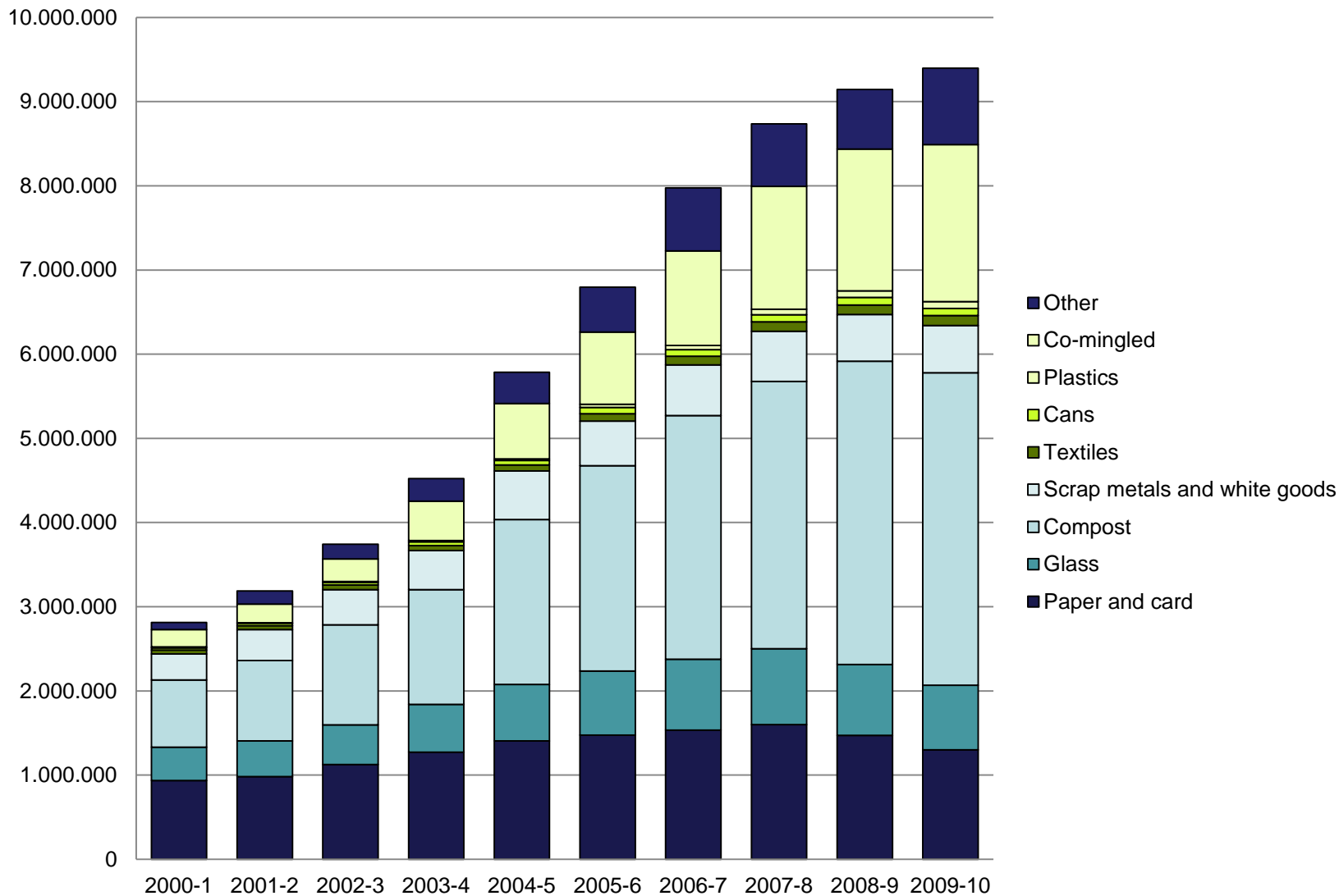


Source: WasteDataFlow



Household Waste Recycled by Material

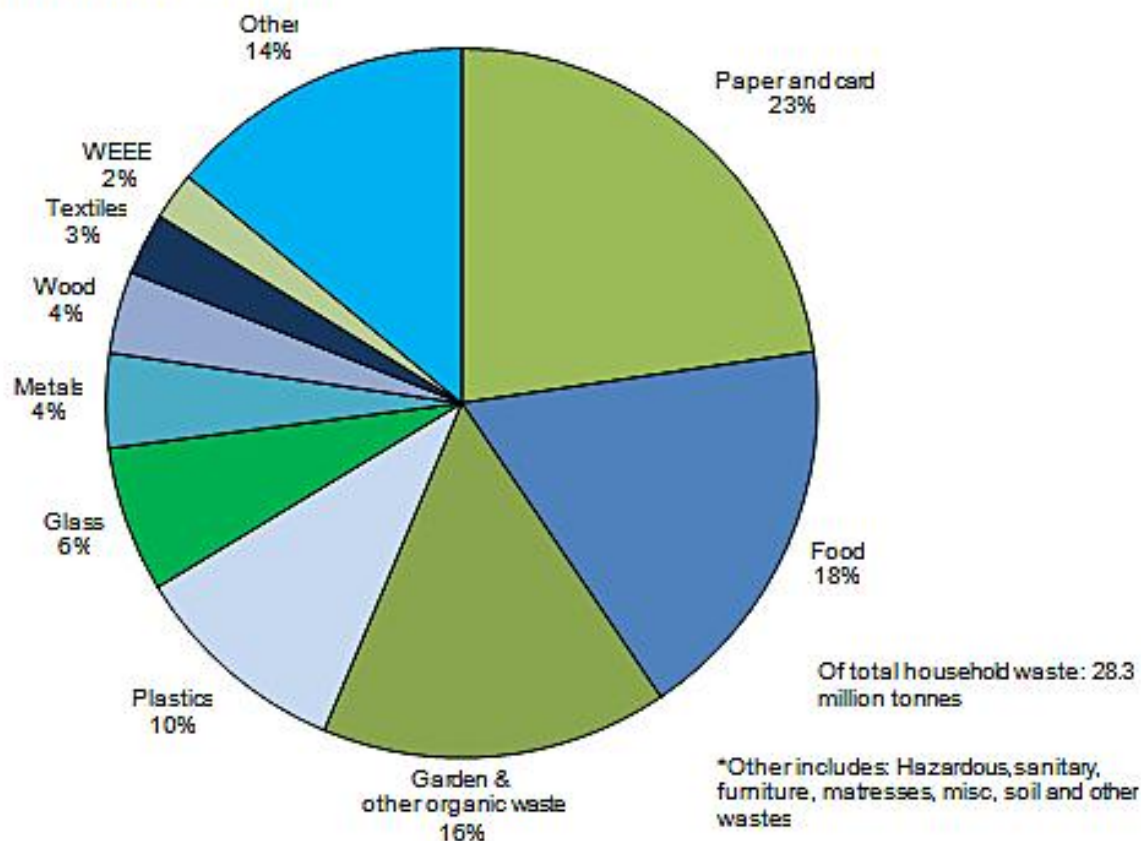
Household waste recycled by material: England, 2000-01 to 2009-10 (tonnes)



Municipal Waste Composition

Local authority collected waste, England, 2006-07

Municipal waste composition: 2006/07



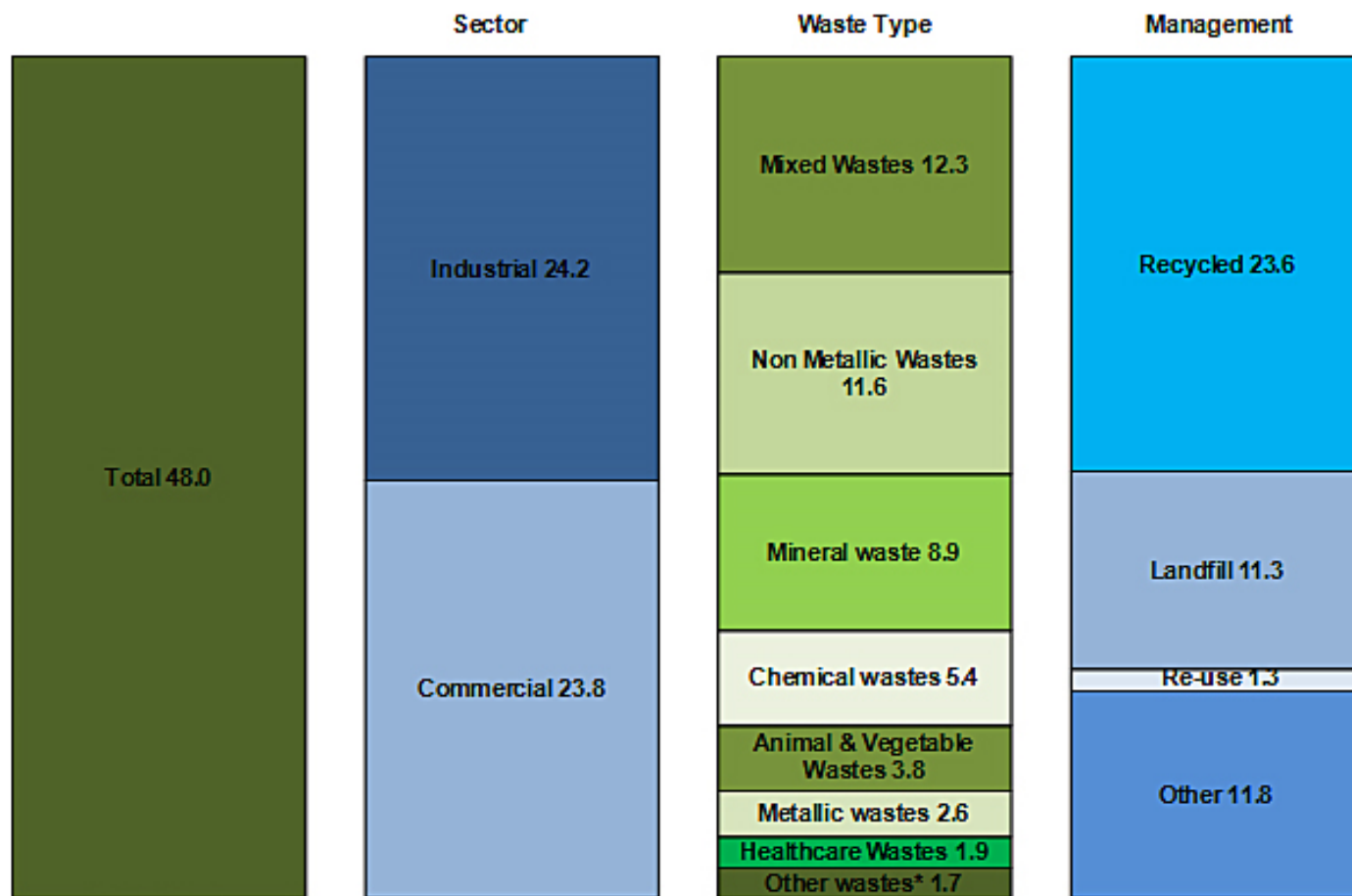
The story so far

- **Over 9m tonnes of Local Authority collected waste have been diverted from landfill since 2000.**
- **EU landfill directive targets met for 2010, looking positive for 2013, 2020.**
- **Household recycling rates have increased from 11% in 2000/01 to around 40%, collecting an additional 6.6m tonnes of material.**
- **52% of commercial and industrial waste was reused or recycled in 2009, compared with 42% in 2002/3.**
- **173 authorities are now collecting 5 or more dry recyclables at kerbside.**
- **Average residual waste per person has reduced by 76kg since 2006/07 to 275kg/person/year in 2009/10.**



Commercial & Industrial Waste

Total C&I waste by sector, waste type and management method, England 2009.



Source: Defra, Environment Agency

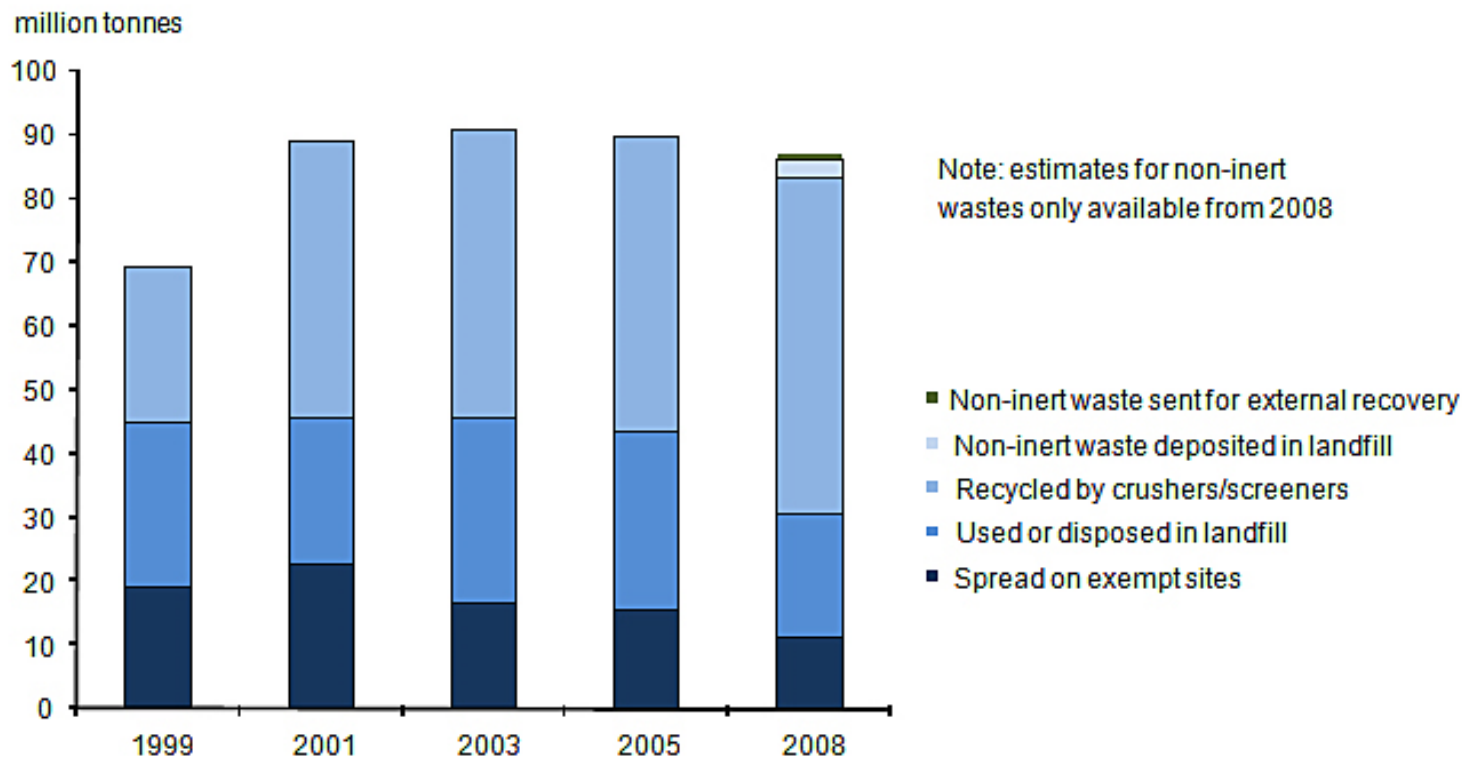
*Other includes common sludges, discarded equipment and non-wastes

Million tonnes



Construction & Demolition Waste

Construction and demolition waste management: England, 1999 - 2008



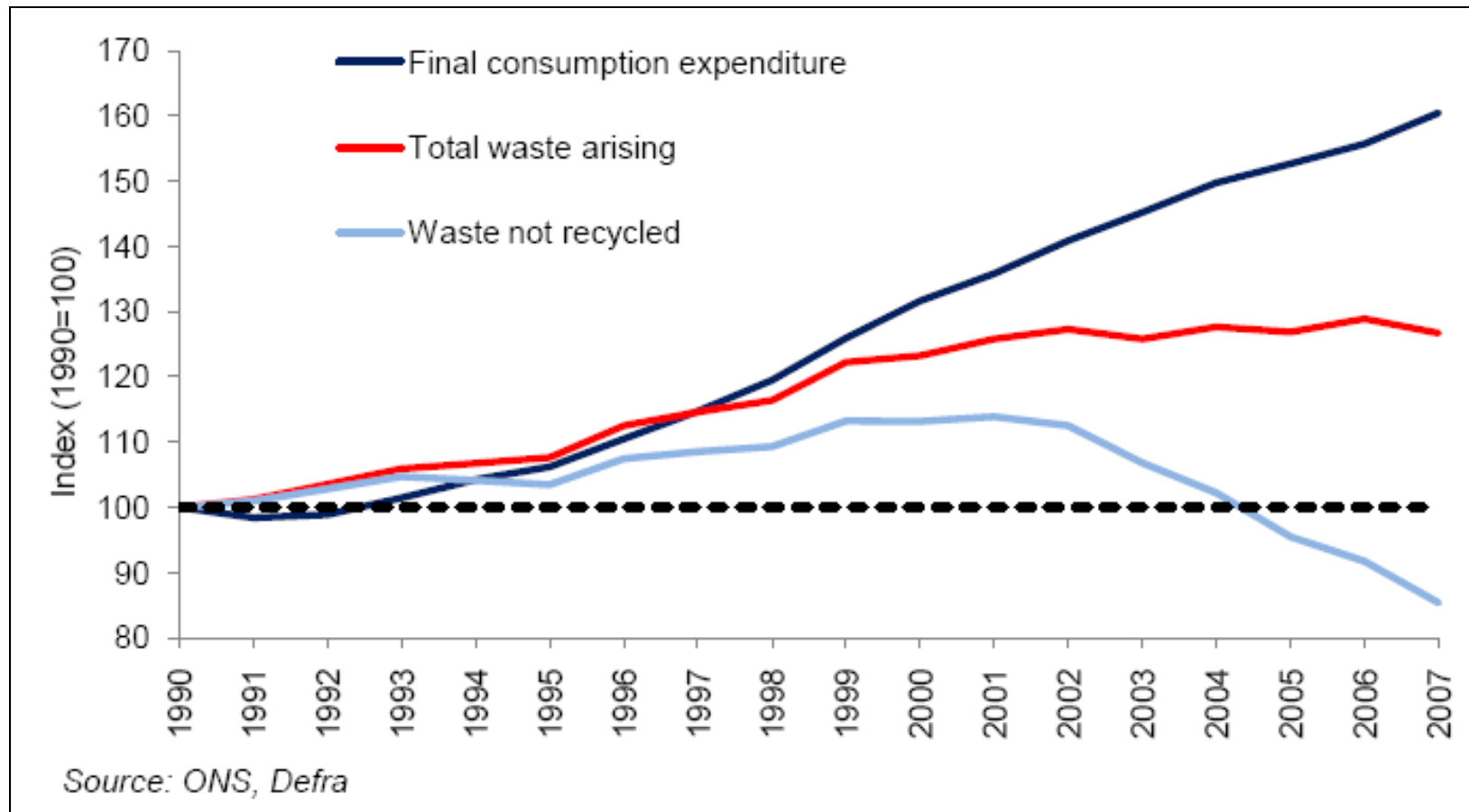
WRAP: 'Updating data on construction, demolition and excavation waste' report (2008)

Source: CLG: Survey of Arisings and Use of Construction, Demolition and Excavation Waste as Aggregate in England (1999, 2001, 2003 and 2005)



Decoupling Municipal Waste

Household final consumption expenditure and waste arising, UK, 1990 to 2007



Employment

- **160,000 Environment Sector**
- **37% increase by 2020**
- **70% recycling target => 50,000 jobs**



Waste Strategy Drivers

- **New Government**
- **Economic backdrop, localism, Big Society**
- **Zero Waste Economy**
- **Voluntary Responsibility Deals**
- **Technology Implementation**
- **Legislative Change**

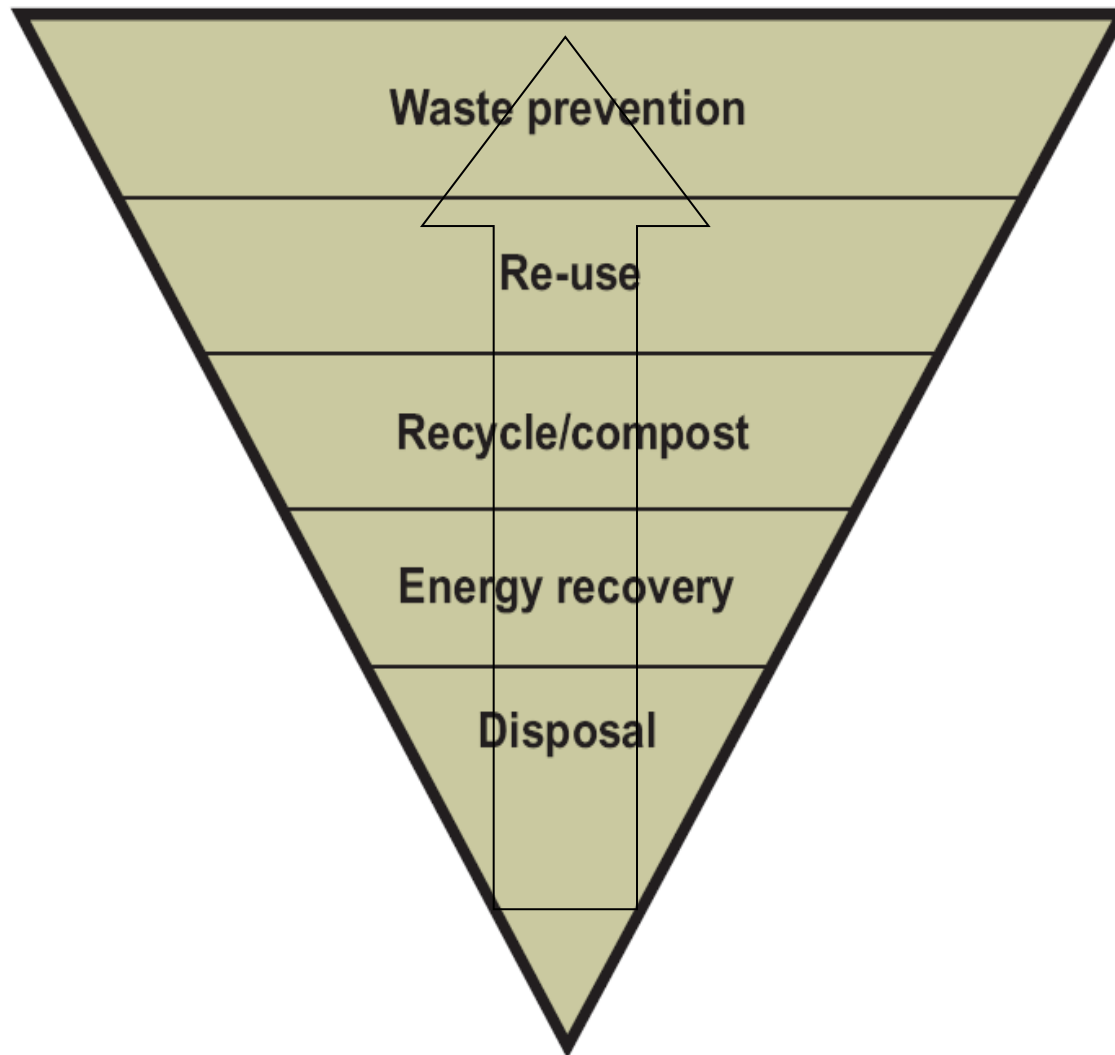


Waste Strategy Issues

- **From Waste to Resource Management**
- **Integrating waste streams**
- **Integrated Network of Facilities**
- **Effective Regulatory Framework**
- **Food Waste Collection**
- **Public Awareness and Involvement**



Waste Hierarchy



Financial Issues

- **Landfill tax**
- **Global economic downturn**
- **Waste charging and incentives**
- **Financial support**
- **Encourage investment**



Dilemmas

- **Localism**
- **Scale and Location**
- **UK Structure**
- **Regulation**
- **Skills**



Landfill

- ***Containment Engineering***
- ***Minimal Environmental Impact***
- ***Regulation***
- ***EMAS***
- ***Local Liaison***



Power Generation

- *High levels of LFG Capture*
- *Installed Capacity >900 MW*
- *>30% of Renewable Generation*
- *Higher contribution than Onshore Wind Energy*



Soil Treatment Facilities

- *Regional*
- *Using Existing Infrastructure*
- *Low Environmental Impact*
- *Complements 'Brownfield' redevelopment*



Construction Wastes Recycling

- **Aggregates**
 - *Site WM Plans*
 - *Standards and protocols*
 - *On site use and reuse*
- **Timber**
 - *Particle Board*
 - *Fuel*
- **Soil**
 - *Onsite reuse*
 - *Decontamination*



Composting



Anaerobic Digestion

- *Optimisation of Existing Grid Connection*
- *Segregated Collection of Food Wastes*
- *Dedicated Commercial / Industrial Facilities*







View of the Olympic Park, February 2011





The Paralympic logo and the cycling pictogram on the floor of the VeloPark to celebrate 1,000 days to go to the Paralympic Games, December 2009





Construction workers applying external cladding to the Velodrome, October 2010





The velodrome, January 2011





Segregation of construction waste





A barge loaded with waste material from the Olympic Park making its way for recycling, June 2009





The removal of contaminated soil from the Aquatics Centre site, September 2007





The new landscaped park taking shape in the Olympic Park, February 2011





View from the Parklands area in the Olympic Park looking south towards the stadium, April 2011



Summary

- **Sustainable Materials Management**
- **Materials Substitution**
- **Greater Resource Efficiency**
- **Design for Sustainability**
- **Cross Sectoral Approach**



www.ciwm.co.uk



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