

REPORT 005

# CD&E WASTE: Halving Construction, Demolition and Excavation Waste to Landfill by 2012 compared to 2008

March 2010

THE 2008 BASELINE OF CD&E WASTE TO  
LANDFILL IN ENGLAND

Prepared by Katherine Adams on behalf of the Strategic  
Forum for Construction



A contribution to delivering the targets in the joint government  
and industry Strategy for Sustainable Construction



Carbon Emission Reduction Target

Planned Approach to Training

Code for Sustainable Homes

CONSTRUCTION

## **CD&E WASTE: Halving Construction, Demolition and Excavation Waste to Landfill by 2012 compared to 2008**

### **The 2008 baseline for the amount of construction, demolition and excavation waste landfilled in England.**

---

This report forms part of series of outputs aimed at supporting the delivery of the targets within the Strategy for Sustainable Construction, a joint industry and government strategy published in June 2008.

<http://www.berr.gov.uk/whatwedo/sectors/construction/sustainability/page13691.html>

The report was commissioned by the Strategic Forum for Construction (SFfC) and prepared by the Strategic Forum Waste Subgroup. The main author of the report was Katherine Adams of BRE who is also Secretariat of the Waste Subgroup.

The report was funded by the Construction Resources and Waste Platform (CRWP) as part of its 2007/2009 delivery programme. Katherine Adams of CRWP was the project manager.

<http://www.crwplatform.co.uk/conwaste/>

The report was edited by Jane Thornback and Simon Storer of the Construction Products Association and Peter Johnson of Kier Group plc, Chair of the SFfC Waste Subgroup.

The Delivering the Strategy Targets series was initiated by Jane Thornback of the Construction Products Association and Coordinator of the Strategic Forum for Construction Sustainable Construction Task Group.

<http://www.constructionproducts.org.uk>

## Foreward

---



Detailed research now provides us with an authoritative means of measuring the amount of construction, demolition and excavation (CD&E) waste going to landfill in England. This methodology enables the Strategic Forum for Construction to declare the 2008 baseline, from which the industry will measure progress towards delivering the target included in the Strategy for Sustainable Construction of halving CD&E waste to landfill by 2012 based on a 2008 baseline.

I am extremely impressed with the progress that has been made in this work which enables us to move forward from the rhetoric of targets to actual implementation and delivery. Progress against the 2012 target will be published annually.

Working from this authoritative evidence based approach of robust measurement will enable us to identify the main CD&E waste streams and the priority actions needed to reduce them.

I applaud all those involved in bringing this work to fruition.

A handwritten signature in black ink that reads "Nick Raynsford".

**Nick Raynsford**

Chair of the Strategic Forum for Construction

## I. Introduction

---

- 1.1 This report presents the baseline for how much construction, demolition and excavation (CD&E) waste was landfilled in England in 2008. This baseline underpins the 2008 Strategy for Sustainable Construction target<sup>1</sup> of reducing CD&E waste to landfill by 50% by 2012 in England. The methodology for determining the baseline and subsequent reporting is described in an accompanying report entitled CD&E Waste: Measuring CD&E waste to landfill in England - A METHODOLOGY, and such detail is not repeated here.
- 1.2 Responsibility for defining the 2008 baseline and measuring progress towards the 2012 target rests with the Strategic Forum for Construction<sup>2</sup>, the industry body that is the joint signatory with government of the 2008 Strategy for Sustainable Construction<sup>3</sup>. To enable the work to progress, the Strategic Forum for Construction received financial support from the DEFRA funded Construction Resource and Waste Platform (CRWP) which enabled experts from the BRE's Resource Efficiency team to work with industry, government and the regulatory agencies to develop the baseline and associated methodology. A Waste Subgroup was formed under the Strategic Forum's Sustainable Construction Task Group (SCTG) to facilitate the work which was carried out between January 2009 and February 2010.
- 1.3 The Waste Subgroup undertook discussion and analysis of relevant datasets, identification of boundaries and definitions to establish the methodology for determining this baseline. The accompanying report, details the rationale together with the risks and assumptions including weakness of the data. Early investigations found that no single set of data exists to measure CD&E waste to landfill. However, the Environment Agency, due to regulatory requirements collects data from a range of waste facilities operators and these form the primary source.

---

1. <http://www.bis.gov.uk/policies/business-sectors/construction/sustainable-construction>

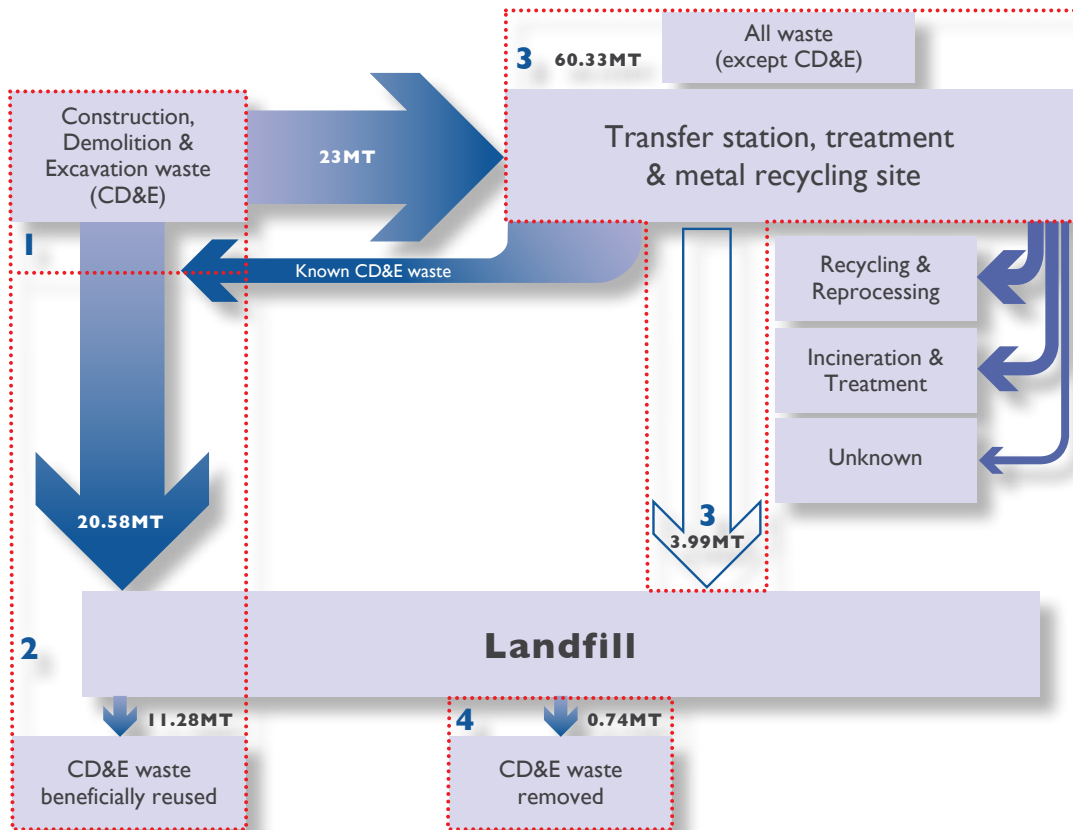
2. <http://www.strategicforum.org.uk>

3. <http://www.bis.gov.uk/policies/business-sectors/construction/sustainable-construction>

## 2. The 2008 baseline

- 2.1 An overview of the methodology for measuring CD&E waste to landfill and the baseline results are summarised in the flow chart shown in Figure 1. The tonnages are highlighted in bold.

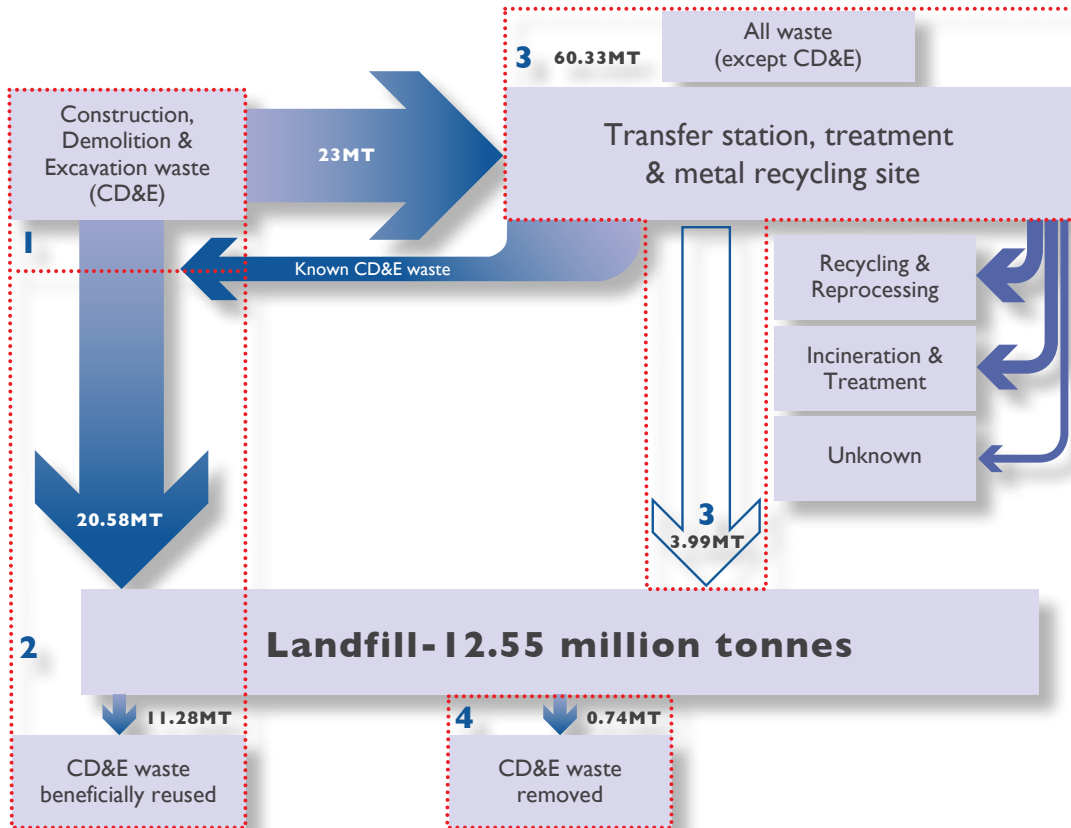
Figure 1: Methodology and results for CD&E waste to landfill in England for 2008



Section		Million tonnes
<b>1</b>	The data source and defining CD&E waste to landfill	<b>n/a</b>
<b>2</b>	Known classified CD&E waste received at landfill CD&E waste beneficially reused	<b>20.58</b> <b>11.28</b>
<b>3</b>	Assumed CD&E waste landfilled from waste transfer stations, treatment plants and metal recycling sites	<b>3.99</b>
<b>4</b>	CD&E waste that is removed from landfill	<b>0.74</b>

2.2 Halving Construction, Demolition and Excavation Waste to Landfill by 2012 compared to 2008

Figure 2: Methodology and results for CD&E waste to landfill in England for 2008



**2008 Baseline:**

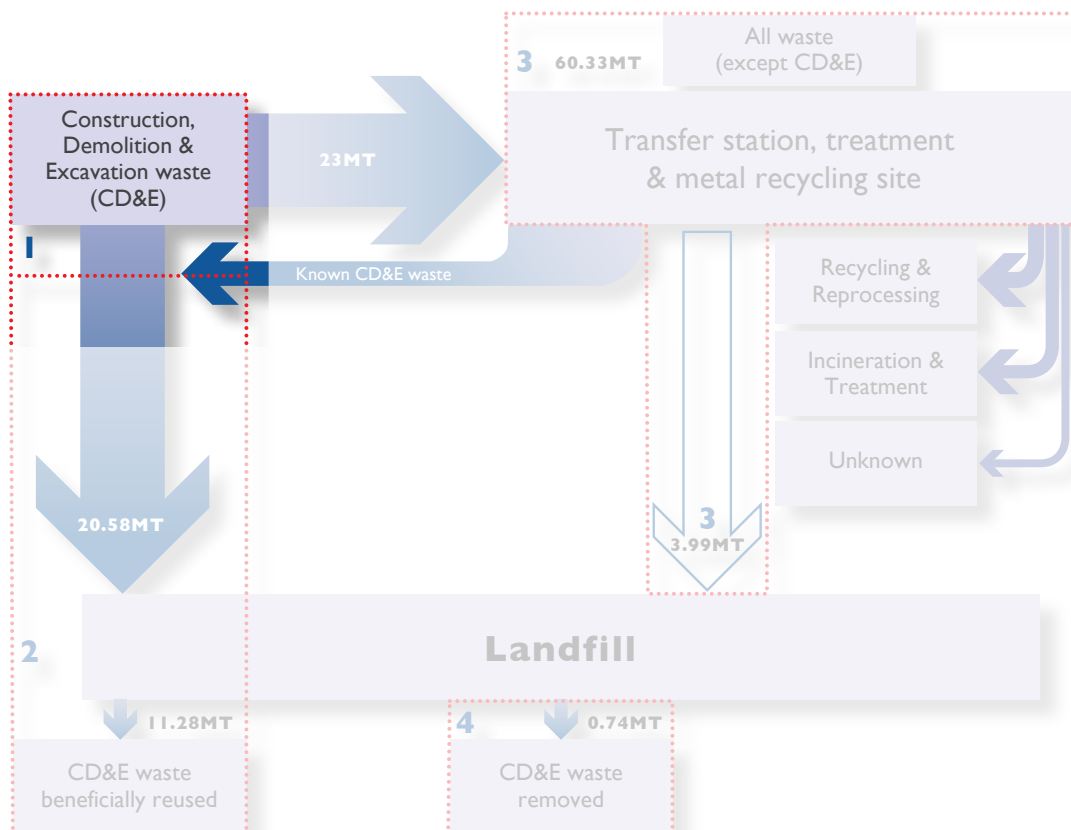
**12.55 million tonnes is the amount of CD&E waste landfilled in England in 2008**

**Equivalent to 118 tonnes per £ million contractors output<sup>4</sup> for 2008 in England**

4. Contractors' output is defined in the Office for National Statistics, Construction Statistics Annual as output by contractors, including estimates of unrecorded output by small firms and self-employed workers, classified to construction (Division 45) in the 2003 revised Standard Industrial Classification. The output for England in 2008 was £106,579 million. <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=284>

### 3. Numerical Analysis of the 2008 baseline

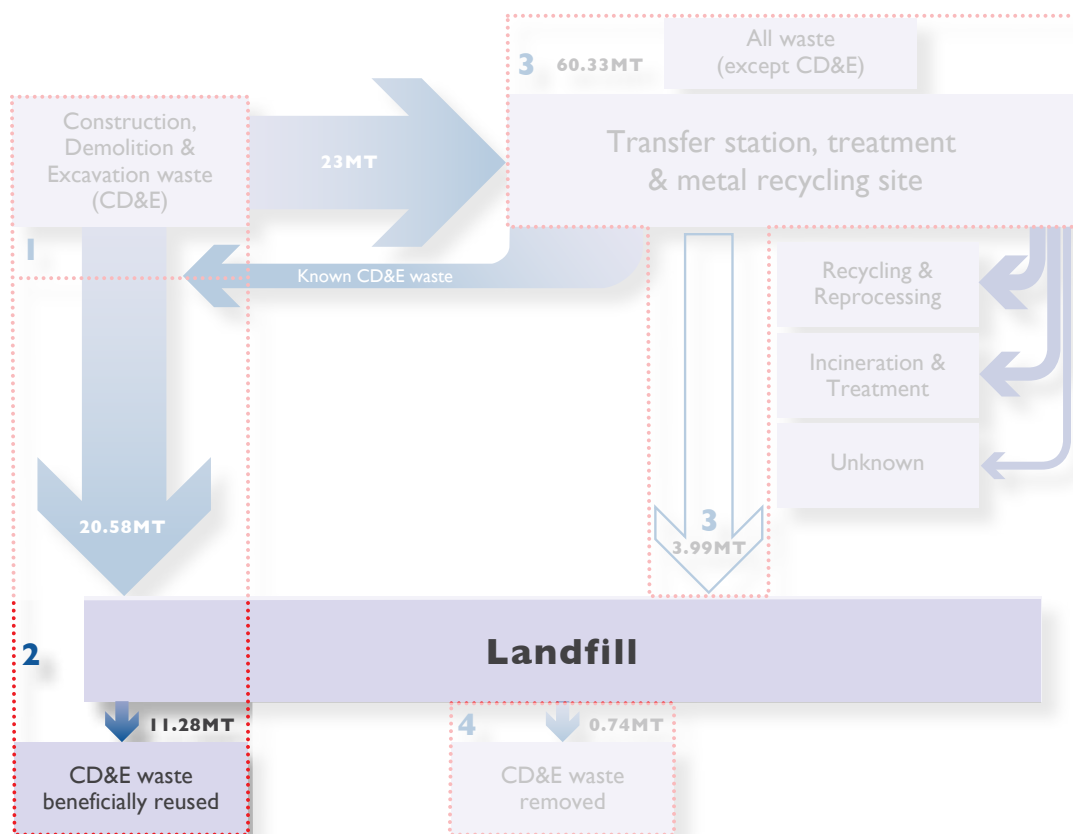
#### Section I: The data source and defining CD&E waste



- 3.1 The Environment Agency's Operator Waste Site Returns is the primary set of data used, with information on the type and amount (in tonnes) of waste received. The definition of CD&E waste was agreed by the Waste Subgroup and for this purpose includes relevant waste codes from the European Waste Catalogue and UK specific ones. All controlled waste in the UK is required to be coded against an appropriate code (six digits) within the List of Waste Regulations 2005<sup>5</sup>. The codes agreed include Chapter 17: Construction and demolition wastes (including excavated soil from contaminated sites) and certain codes from the UK list including: Chapter 21: Inert, Chapter 22: General and biodegradable, Chapter 24: Contaminated general waste and Chapter 26: Asbestos.

5. List of Waste (England) Regulations 2005; Si 2005 No 895; available on: <http://www.opsi.gov.uk/si/si2005/20050895.htm>

## Section 2: Known classified CD&E waste received at landfill and beneficially reused

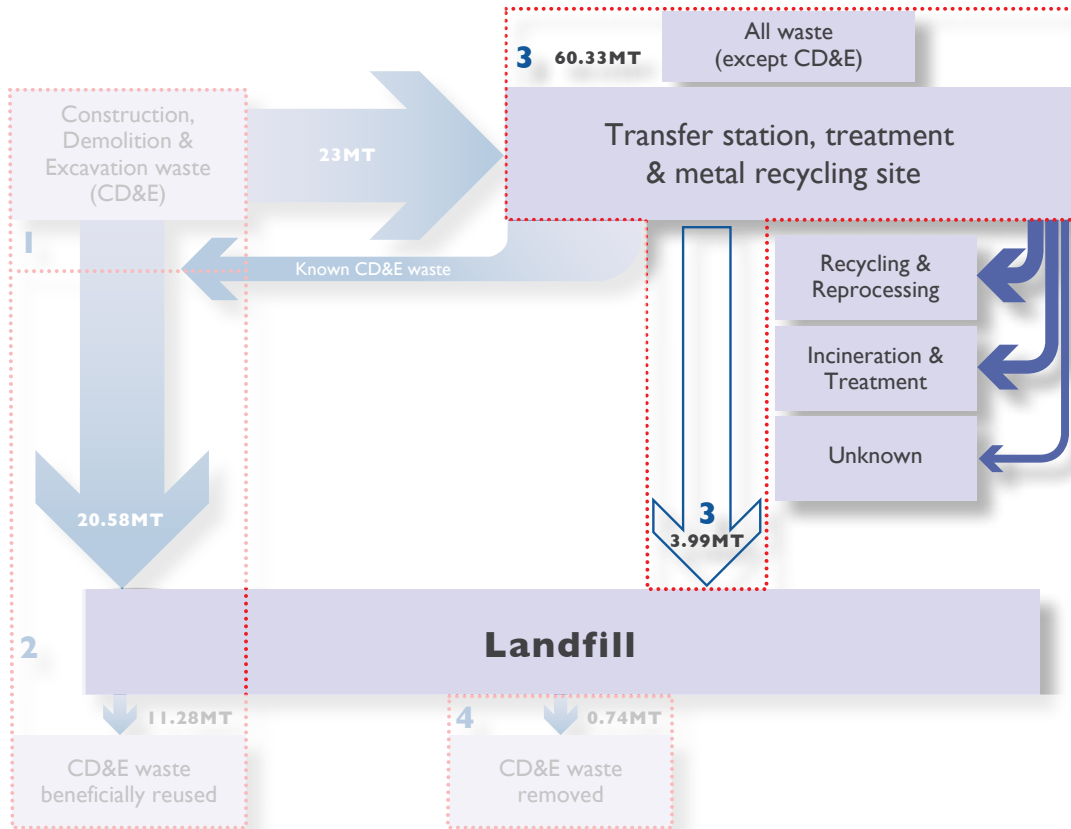


- 3.2 The amount of known CD&E waste received at landfill in 2008 was 20.58 million tonnes. However, not all waste that is sent to landfill is actually landfilled as waste. A proportion will be beneficially reused for landfill engineering purposes. Data from the HM Revenue and Customs (adjusted to England only) for waste that is exempt from Landfill Tax is used as a proxy for determining how much CD&E waste was beneficially reused<sup>6</sup>. 11.28 million tonnes (over half) of CD&E waste was beneficially reused in 2008. Therefore the amount of known CD&E waste landfilled as a waste was 9.30 million tonnes. This is summarised in the following table.

	<b>Million tonnes</b>
Known CD&E waste received at landfill	20.58
Known CD&E waste beneficially reused	-11.28
Known CD&E waste landfilled	<b>9.30</b>

6. Landfill Tax bulletins available from [www.uktradeinfo.com](http://www.uktradeinfo.com).

### Section 3: Assumed CD&E waste received at landfill from waste transfer stations, treatment plants and metal recycling sites

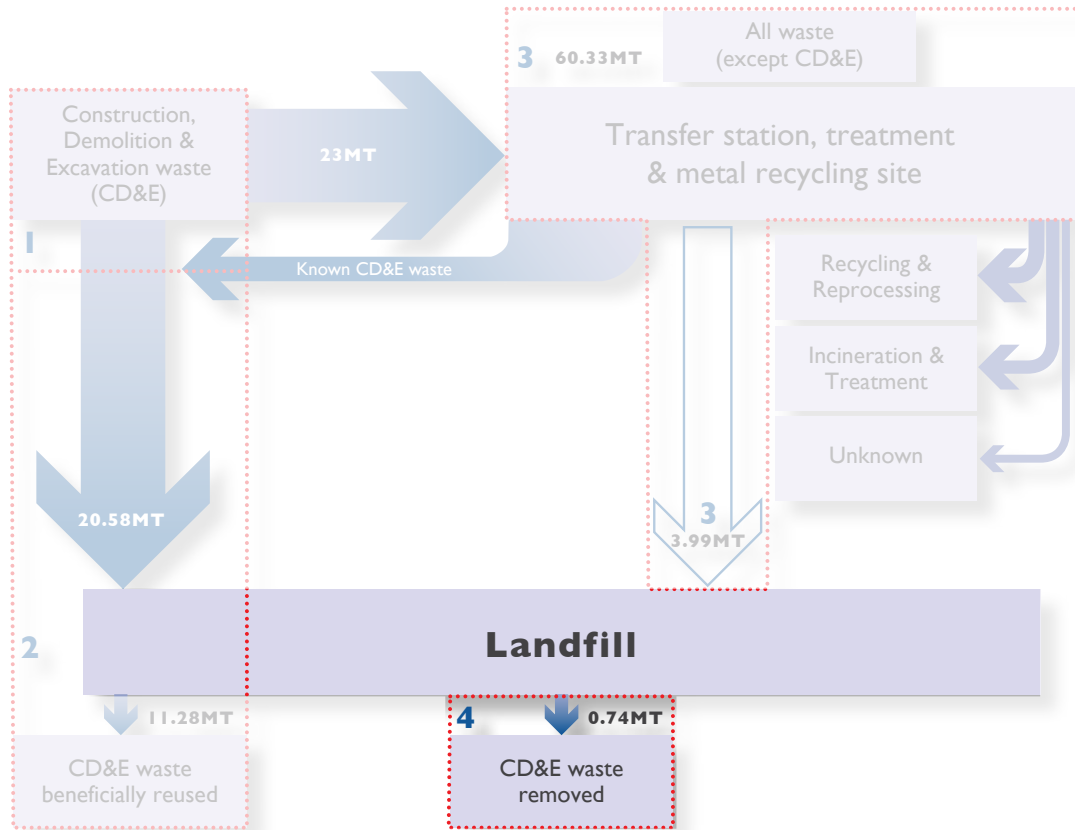


- 3.3 A proportion of CD&E waste that is sent to a waste transfer station, a treatment plant, or a metal recycling site, may, after sorting and recovery be sent to landfill. Some of this may be coded as CD&E waste and as such will be included in the figures presented in Section 2. However, some of this waste may not be coded as CD&E waste even though it has originated from a construction process. It could be coded as Chapter 19: Waste from Waste Management Facilities and Water Treatment Works. Therefore to estimate the amount of CD&E waste received at landfill from these facilities, a methodology based on the proportion of CD&E waste entering these facilities has been used.

3.4 The amount of CD&E waste sent to waste transfer stations, treatment plants and metal recycling sites was 23 MT in 2008 from a total of 83 MT for all types of waste. Therefore, the percentage of CD&E waste these facilities receive in relation to all waste is 27.6%. This percentage has been used to estimate the proportion of waste that is received at landfill (as a Chapter 19 code: Waste and Water Treatment Works), some of which, may be CD&E waste. This accounts for 3.06 MT. Additionally, there are some waste types coded under Chapter 19, which are identifiable as originating from CD&E waste. These account for 0.93 MT received to landfill. This is summarised in the table below.

	<b>Million tonnes</b>
All waste received at waste transfer stations, treatment and metal recycling sites	83.33
Total CD&E waste received at waste transfer stations, treatment and metal recycling sites	23.00
% proportion of waste at waste transfer stations, treatment and metal recycling sites that is CD&E waste	27.6
Waste from waste transfer stations, treatment and metal recycling sites that is received at landfill (Chapter 19)	11.08
Proportion of Chapter 19 that is estimated to be CD&E waste	3.06
Proportion of Chapter 19 that is known to be CD&E Waste	0.93
<b>Assumed CD&amp;E waste that is received at landfill from waste transfer stations, treatment and metal recycling sites</b>	<b>3.99</b>

## Section 4: CD&E waste that is removed from landfill



- 3.5 Some CD&E waste that is received at landfill may be removed i.e. not disposed of, for instance, there could be a sorting plant at the landfill site which may send CD&E waste for recycling or treatment. The amount of CD&E waste that was removed in 2008 was 0.74 million tonnes.

## **4. Monitoring progress towards the 2012 CD&E waste target**

---

- 4.1 An annual measurement of CD&E waste to landfill will be made and reported by the Strategic Forum's Waste Subgroup. To assess the progress towards the target, a number of indicators have been identified, these are:

### **Indicator 1**

CD&E waste that is known to be landfilled to decrease. In 2008, this was 9.30 MT

### **Indicator 2**

The proportion of CD&E waste that is received at waste transfer stations, treatment plants and metal recycling sites to stay the same or increase if Indicator 1 decreases. In 2008, the proportion was 27.6%

### **Indicator 3**

The proportion of CD&E waste received at landfill via waste transfer stations, treatment plants and metal recycling sites to decrease. In 2008, this was 3.99 MT

## **4.2 Next steps**

The Strategic Forum's Waste Subgroup will be undertaking detailed analysis of the respective waste streams that make up the totals to assess the opportunities to reduce and divert waste from landfill. A detailed strategy will emerge during 2010.

REPORT 005

construction   
products association

26 Store Street  
London WC1E 7BT

t. 020 7323 3770  
f. 020 7323 0307

[www.constructionproducts.org.uk](http://www.constructionproducts.org.uk)

© 2010 Construction Products Association

Design - [www.tomcatdesign.co.uk](http://www.tomcatdesign.co.uk)  
Cover photograph - Peter White