

## Detailed guidelines for UK Contractors Group (UKCG) companies to measure and report construction waste (January 2009)

The UK Government has established<sup>1</sup> the following overarching target for construction waste within England:

*By 2012, a 50% reduction in construction, demolition and excavation waste to landfill compared to 2008<sup>2</sup>*

The following Key Performance Indicators (KPIs) have been established to benchmark performance of the construction industry against this target:

*Waste to landfill KPI: reduction in 'tonnes of waste to landfill per unit of construction output', relative to baseline year:*

- *Waste reduction KPI: reduction in 'tonnes of waste per unit of construction output', relative to baseline year*
- *Waste recovery KPI: percentage of waste diverted from landfill during the last year<sup>3</sup>*

In order to report meaningful, comparable information and show progress towards halving waste to landfill the following data needs to be collected from construction companies using standardised metrics of measurement:

- Total tonnes of waste (including waste from Construction, Demolition & Excavation activities)
- Tonnes of waste to landfill
- Construction value

This document sets out the key principles for the collection and reporting of construction waste data in order to measure progress against the above Government target and subsequent KPIs. The document is split into the following sections:

1. Scope of waste measurement
2. Waste definitions
3. Unit of Measurement
4. Recovery rates
5. Waste reporting proforma

This guidance also outlines the requirements in terms of the minimum data needed from each reporter and the options for reporting more detailed waste data. The three possible levels of reporting detail are described as:

- Base data (required from all reporters)
- Intermediate (Optional)
- Detailed (Optional)

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<sup>1</sup> Strategy for Sustainable Construction (June 2008)

<sup>2</sup> [http://www.wrap.org.uk/construction/halve\\_waste\\_to\\_landfill/12w2l\\_why.html](http://www.wrap.org.uk/construction/halve_waste_to_landfill/12w2l_why.html)

<sup>3</sup> WRAP Construction Procurement Guidance: Procurement requirements for reducing waste to landfill, Model procurement wording for construction clients and contractors to deliver improved resource efficiency on construction projects (October 2008)

## 1. Scope of waste measurement

- 1.1. To enable the production of waste benchmarks, companies are required to report:
  - 1.1.1. Total construction cost of all construction projects undertaken.
  - 1.1.2. Total tonnes of waste arisings and tonnes going to landfill for all construction projects (This can also be reported in m<sup>3</sup> instead, if required).
- 1.2. The construction industry should measure and report on total demolition, excavation and construction waste.
- 1.3. Companies should report total waste stream data, it is optional to report on separate waste stream data for individual construction projects.
- 1.4. All materials taken off site (“leaving the gate”) are considered to be a waste<sup>4</sup>. However some wastes will be allocated a 100% recovery factor (see section 4.0). Companies should report all subcontractor wastes (including demolition waste) that are part of the main contract of works.
- 1.5. It is optional to report materials that are reclaimed on site without leaving site (whether they have been either; reused in their original form, remediated, processed or recycled).
- 1.6. Only data for waste taken off site (“leaving the gate”) will be used to calculate waste KPIs.
- 1.7. For the purpose of reporting construction waste data, the definition of a construction project is taken from the Site Waste Management Plans Regulations:

*“Construction work” means the carrying out of any building, civil engineering or engineering construction work and includes:*

- (a) the construction, alteration, conversion, fitting out, commissioning, renovation, repair, upkeep, redecoration or other maintenance (including cleaning which involves the use of water or an abrasive at high pressure or the use of corrosive or toxic substances), de-commissioning, demolition or dismantling of a structure;*
- (b) the preparation for an intended structure, including site clearance, exploration, investigation (but not site survey) and excavation, and the clearance or preparation of the site or structure for use or occupation at its conclusion;*
- (c) the assembly on site of prefabricated elements to form a structure or the disassembly on site of prefabricated elements which, immediately before such disassembly, formed a structure;*
- (d) the removal of a structure or of any product or waste resulting from demolition or dismantling of a structure or from disassembly of prefabricated elements which immediately before such disassembly formed such a structure; and*
- (e) the installation, commissioning, maintenance, repair or removal of mechanical, electrical, gas, compressed air, hydraulic, telecommunications, computer or similar services which are normally fixed within or to a structure,*

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<sup>4</sup> Environment Agency Position statement, Definition of waste: Development industry code of practice  
[http://www.environment-agency.gov.uk/commondata/acrobat/ps\\_codepractice\\_1386151.pdf](http://www.environment-agency.gov.uk/commondata/acrobat/ps_codepractice_1386151.pdf)

*but does not include the exploration for or extraction of mineral resources or preparatory activities carried out at a place where such exploration or extraction is carried out<sup>5</sup>.*

*“project” means a project that includes or is intended to include construction work and includes all planning, design, management or other work involved in a project until the end of the construction phase.*

- 1.8. For the purpose of reporting construction waste data, the definition of construction cost is aligned with the definition used within the Site Waste Management Plans Regulations:

*Cost is the price in the accepted tender or, if there is no tender, the cost of labour, plant and materials, overheads and profit<sup>6</sup>*

- 1.9. Reporting is required for projects with a value of £300,000 or more (excluding VAT), this threshold for waste reporting aligns with the threshold for requirement of a Site Waste Management Plan<sup>7</sup>. If data is available for projects with a value of less than £300,000 (excluding VAT) it should also be submitted.
- 1.10. Companies should include wastes from site preliminaries within skips managed by the site waste management contractor/carrier (i.e. waste resulting from the site office and temporary site infrastructure). Company waste that does not result from a construction site (i.e. Central office waste) should not be reported.
- 1.11. For the purpose of reporting construction waste data from joint venture (JV) projects; waste and proportionate construction value of projects should be allocated to each main contractor relative to the percentage equity invested within the JV vehicle.
  - 1.11.1. The responsibility for monitoring waste data from a JV project should be allocated at the start of the JV. Waste data should be collated quarterly and proportioned to each contractor.

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<sup>5</sup> The Site Waste Management Plans Regulations 2008, Statutory Instruments 2008 No. 314, Environmental PROTECTION, England,

<sup>6</sup> The Site Waste Management Plans Regulations 2008, Statutory Instruments 2008 No. 314, Environmental PROTECTION, England,

<sup>7</sup> The Site Waste Management Plans Regulations 2008, Statutory Instruments 2008 No. 314, Environmental PROTECTION, England,

## 2. Waste definitions

### 2.1. Material classifications

**Waste** - Any substance or object the holder discards, intends to discard or is required to discard is waste under the Waste Framework Directive (European Directive 2006/12/EC), which repeals the European Directive 75/442/EC as amended.

**Recovered materials** - The ICE Demolition Protocol refers to recovered materials as those which are recycled or reused.

- Re-use - Putting materials to another use after they have fulfilled their original function
- Recycling - The reprocessing of wastes, either into the same material (closed-loop recycling) or a different material (open-loop recycling)

#### 2.1.1. Examples of recovered materials

- The fragment of a load of mixed waste sent to a MRF (or WTS) that is reused or recycled and not sent to land fill
- The segregated recyclable waste that is sent to a MRF, WTS or recycling centre that is recycled and not sent to landfill
- The fragment of a load of contaminated land that is remediated and reused and not sent to landfill

### 2.2. Waste destinations

**Recycling Centre** - A destination that only accepts predefined segregated wastes, the majority of which are recycled or reused.

**Transfer Station** - A destination that accepts mixed and partially segregated wastes and sorts that waste for recycling and reuse as well as landfill (also known as a MRF of Material Recycling Facility).

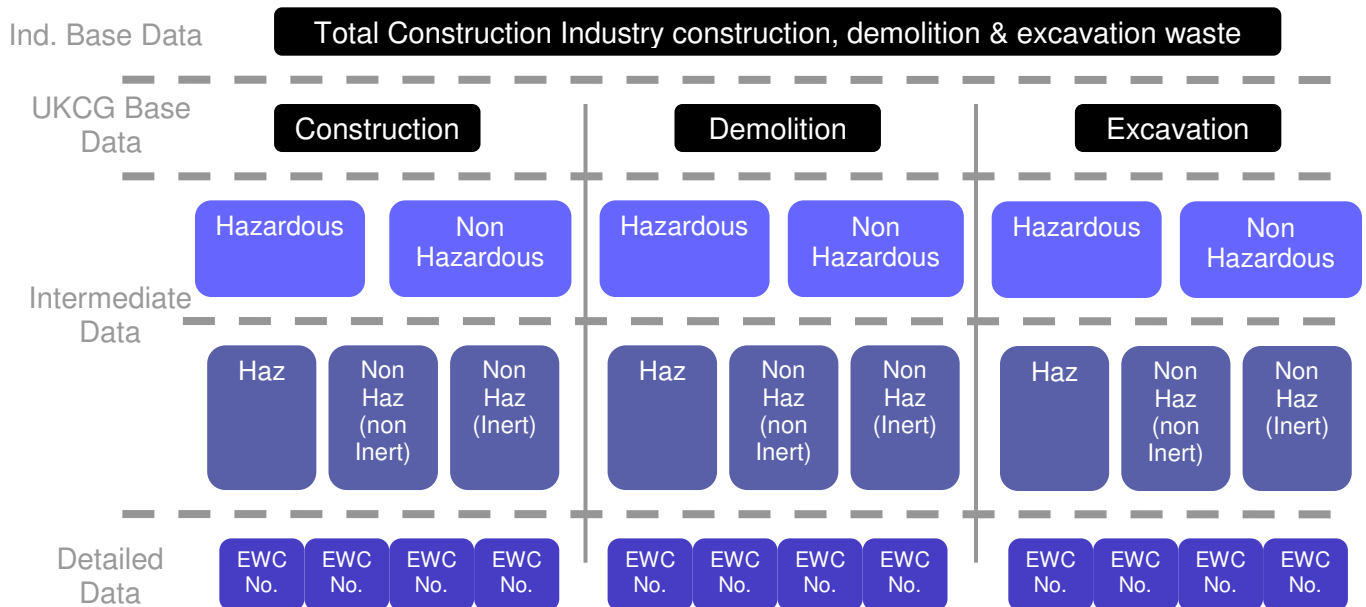
**Landfill** - Designated landfill sites are managed to receive waste for final underground disposal under the provisions of the Landfill Directive, the Waste Management Licensing Regulations and the Environmental Permitting Regulations as relevant in Scotland, Northern Ireland, England and Wales.

**Waste Management Licence exempt sites** - Exemptions from waste management regulations are mainly for small-scale waste storage, recycling and recovery operations. Each exemption specifies the type and quantity of wastes, methods of recovery, time limits for storage and pollution control measures.

**Cluster Projects** - A cluster can be defined as “a group of sites that are categorised as land affected by contamination, which include shared decontamination capacity located at one site (which is recognised by the EA), the main aim of which being to produce recovered materials that are reused by itself and by the other sites in the group”.

2.3. Companies should report construction, demolition and excavation waste as separate streams.

2.4. The following diagram illustrates how splits in waste reporting are facilitated within the reporting proforma:



2.5. Beyond minimum reporting

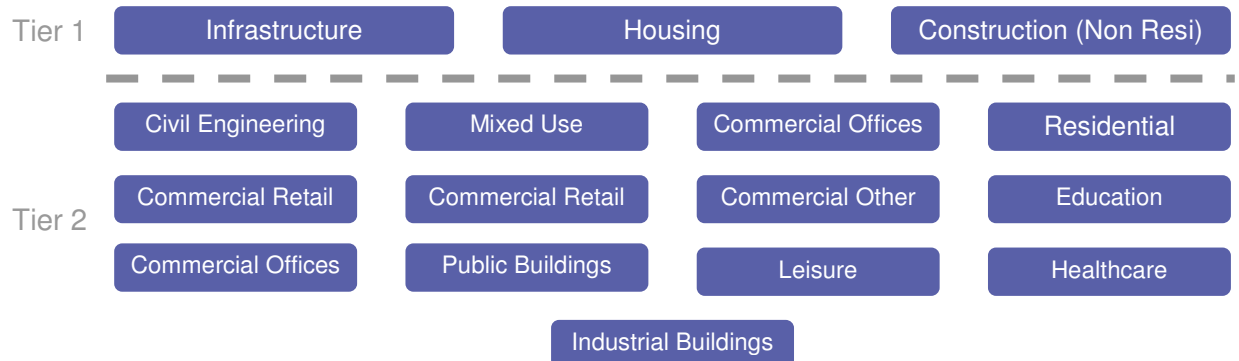
2.5.1. Intermediate Data reporting requires information on:

- Separate demolition, excavation and construction waste streams  
AND
- Hazardous and Non Hazardous wastes within the separate demolition, excavation and construction waste streams  
OR
- Hazardous, Non Hazardous (Non Inert) and Non Hazardous (Inert) wastes within the separate demolition, excavation and construction waste streams

2.5.2. Detailed Data reporting requires information on:

- Separate demolition, excavation and construction waste streams  
AND
- Details of the quantities of specific wastes (by EWC number) within the separate demolition, excavation and construction waste streams. The waste category (Hazardous, Non Hazardous (Non Inert) or Non Hazardous (Inert)) will be determined automatically by the EWC code entered.

- 2.6. The reporting proforma facilitates companies that would like to benchmark their waste data against their individual sector construction type(s). Sector type can be defined using two tiers of description:



- 2.7. To report by sector type firms will need to submit their waste data split into the respective construction sector types together with the corresponding construction total cost for that sector.

### 3. Unit of Measurement

- 3.1. Waste should be reported in tonnes if possible. For companies that measure waste by volume, the waste reporting proforma should be used to automatically convert waste entered in volume to tonnes using standardised conversion factors from the Environment Agency<sup>8</sup>.
- 3.2. For companies that collect their waste data in volume only (and not tonnes) the reporting proforma facilitates entry of volume data. Only primary volume or mass data (that has not undergone any previous conversion) should be inputted into this tool. Some Site Waste Management tools (e.g. SMARTWaste) allow entry of volume data and convert it to mass; where a tool of this type is used the original volume data should be used for reporting purposes.

### 4. Recovery rates

- 4.1. Unless a bespoke recovery rate is entered for a destination the quantity of waste being sent to landfill via that destination is estimated using the following default average recovery rates. Where reliable data (that can be verified using EA Waste Return Forms) are available on the actual recovery rate achieved for waste sent to a specific destination the default recovery rate can be overwritten.
- 4.2. Where excavation waste classified under European Waste Code 17 05 04 (soil and stones not containing dangerous substances) is taken to a waste management licence exempt site, it will be allocated a 100% recovery rate.

<sup>8</sup>Details of standard conversion factors will be released to all members (and incorporated within WRAP's National Reporting Portal and Site Waste Management Plan) imminently.

Where EWC 17 05 04 waste is non exempt and taken to landfill it will be allocated a 50% recovery rate<sup>9</sup>.

- 4.3. Contaminated / hazardous waste will have a 0% recovery rate if sent to landfill, even if it has qualified for landfill tax exemption<sup>10</sup>.
- 4.4. Contaminated materials that are taken off site for remediation within an EA Cluster Project should be reported and will be allocated an 80% recovery rate<sup>11</sup>.
- 4.5. Recyclable wastes that are segregated on site and sent to a dedicated Recycling Centre, MRF or WTS will be allocated an 80% recovery rate<sup>10</sup>.
- 4.6. Mixed wastes that are taken to a Materials Recovery Facility/ Waste Transfer Station will be allocated a 50% recovery rate<sup>12</sup>.

## 5. Waste reporting proforma

- 5.1. Companies should report data on either:
  - 5.1.1. A continuous basis – i.e. report only on the waste produced within the respective quarter (this is the recommended approach)
  - 5.1.2. An end of project basis- i.e. report all waste for projects that reach practical completion within the respective quarter
- 5.2. Companies wishing to submit data in both continuous and end of project formats (for example if a parent company wants to submit data for a number of subsidiary companies operating different data collection systems) should submit data as subsets for each subsidiary company using a separate input form for each.
- 5.3. It is possible for companies to submit total amalgamated waste amounts (for numerous destinations) where data for individual waste destinations is not available.
- 5.4. Waste data should be recorded quarterly and reported within 8 weeks of quarter end.
- 5.5. Waste and financial data should be reported using the following quarters:
  - Q1 = Jan to March
  - Q2 = April to June
  - Q3 = July to Sept
  - Q4 = Oct to Dec
- 5.6. Total construction cost should be reported for the period / projects for which waste data is provided.

<sup>9</sup> This figure comes from the CLG Survey of Arisings and Use of Alternatives to Primary Aggregates in England and comes (2005) and will be updated when data becomes available

<sup>10</sup> i.e. for sites registered before 1st December 2008 under the Landfill Tax exemption scheme

<sup>11</sup> This is a conservative estimate and will be updated when more detailed data are available

<sup>12</sup> WRAP have a long term action to provide more guidance on recovery rates for Materials Recovery Facilities