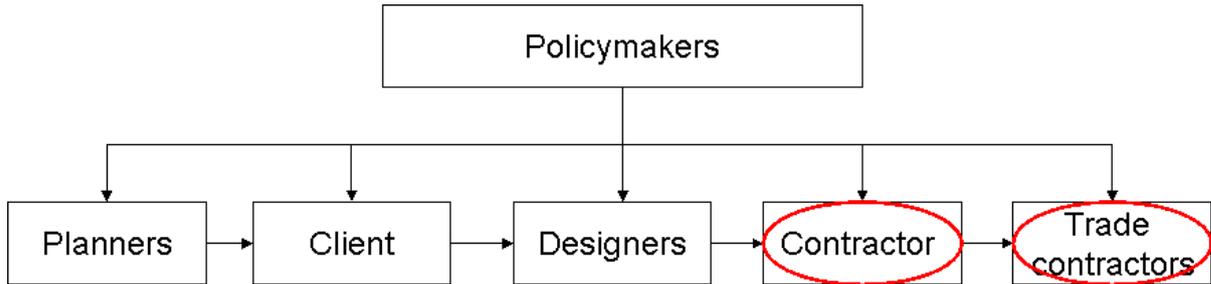


Annex 7: Contractors – how the data can be used

This Annex accompanies the SID5 report for the Defra funded project 'Understanding and Predicting Construction Waste' (WR0111). This Annex gives details of how the data collected and analysed can be used by contractors at a both a project and company level to influence waste reducing activities and initiatives.



Summary of project

Defra has funded BRE to collect and analyse data for construction waste. Data have been collected through a benchmarking website and BRE's SMARTStart system (part of the SMARTWaste system) where users can enter data for their construction project. Mandatory data that must be entered for projects include the project type e.g. residential, commercial offices etc, floor area, project value, location and type and amount of waste generated. The data collected have been statistically analysed and key performance indicators (KPIs) have been produced and are updated bimonthly. The KPIs are:

- Volume of waste (m³)/ 100m² of gross internal floor area
- Tonnes of waste / 100m² of gross internal floor area
- Volume of waste (m³)/ £100,000 of project cost
- Tonnes of waste /£100,000 of project cost
- % and amount (volume/tonnes) segregated on site

These KPIs are broken down by the type of waste and project. They are currently available for new build construction projects; KPIs are being developed for refurbishment and demolition projects. Data collected through BRE's free SMARTWaste Plan tool (for writing and implementing Site Waste Management Plans) will continue to be analysed to generate more KPIs.

The data

KPIs as of 31/08/08 are shown below for different project types.

Project Type	Average m ³ /100 m ²	Average m ³ /£100K
Residential	15.3	18.3
Public Buildings	26.1	22.2
Leisure	12.3	20.6
Industrial Buildings	20	11.3
Healthcare	15	13.4
Education	13.4	17.3
Commercial Offices	20.1	14.9
Commercial Retail	15	10.4
Civil Engineering	24.3	20.3
Overall Average	16.4	16.8

These data are further broken down into waste product type; this is shown for *residential* projects below:

Description	Residential (m ³ /100m ²)	Residential (m ³ /£100K)
Canteen/office/ad-hoc	1.73	1.79
Ceramics/bricks	1.44	2.06
Concrete	1.90	3.26
Electrical equipment	0.15	0.08
Furniture	0.08	0.03
Hazardous	0.06	0.02
Inert	0.67	1.34
Insulation	1.09	1.39
Liquids and Oils	0.05	0.01
Metals	0.59	0.48
Packaging	2.71	3.23
Plaster/cement	1.87	1.84
Plastics	1.05	1.25
Timber	1.89	1.54
Total	15.3	18.3

Where enough datasets exist, the data has been split to provide KPIs for standard, good and best practice. The table below shows these benchmarks for *residential* projects.

Benchmarks for Residential Projects	m ³ /100m ²	Tonnes/100m ²
Best Practice (Lower Quartile)	<9.0	<4.7
Good Practice	9.0 - 12.9	4.7 – 6.7
Standard Practice	>12.9	>6.7

How the data can be used

These data can be used by all parts of the supply chain. For contractors (both main and trade); the data can be used in the following ways:

Construction project level

- To forecast the amount and type of waste produced (requirement under Site Waste Management Plan Regulations in England) if either the internal floor area or project cost is known
- To set appropriate targets for waste reduction and recovery (requirement under the Code for Sustainable Homes)
- To set appropriate waste targets by material and/or work package
- To assist with the reduction and recovery of waste through better understanding of the waste
- To work with trade contractors and the supply chain to reduce and recover waste
- To help with the development and costing of waste management packages
- To benchmark performance against similar projects
- Move towards best practice for waste management

Company level

- Benchmark performance across the company
- Benchmark performance across the industry
- Help in setting company-wide policies and targets for waste management

The benefits

Benefits of contractors using these data include:

- Compliance with the Site Waste Management Plan Regulations in England (by helping with forecasting)
- Provides data to set resource efficiency targets for construction waste for the Code for Sustainable Homes
- Set specific waste reduction targets to improve performance and save on costs
- Less wastage of materials and better efficiency on site
- Target appropriate key wastes and work packages resulting in cost savings
- Help with achieving Corporate Social Responsibility objectives and setting of targets for systems such as Environmental Management System

Understanding and Predicting Construction Waste (WR0111)

- Benchmark position with similar projects and national figures; best in class
- Aid in market position and positive PR
- Provide sustainability evidence to the client

Further information

- Please go to www.smartwaste.co.uk to see the updated benchmarks or email: smartwaste@bre.co.uk for more information.
- You can register for BRE's free SMARTWaste Plan tool at www.smartwaste.co.uk. A calculator for forecasting the amount and type of waste is available as part of the tool based on this data. SMARTWaste Plan can be used to write and implement Site Waste Management Plans.
- For more information on Site Waste Management Plans and Construction Waste see www.defra.gov.uk/constructionwaste
- For more information on Defra's Waste and Resources Evidence Programme see www.defra.gov.uk