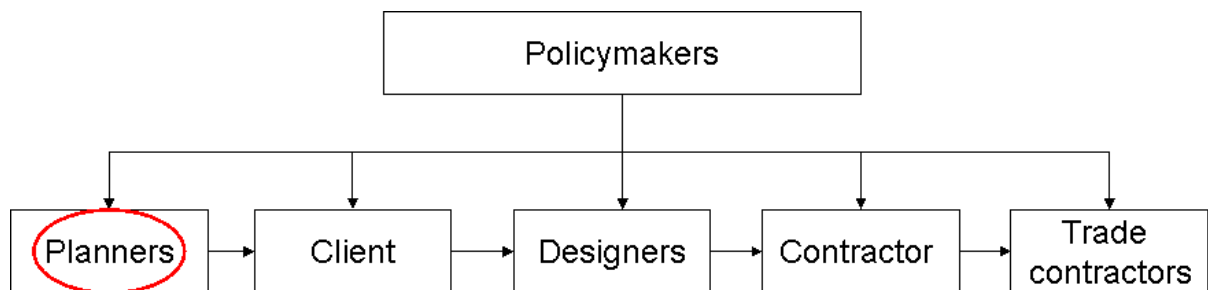


Annex 5: Planning – how the data can be used

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 planners both at the micro and macro 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 SMARTWaste) 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

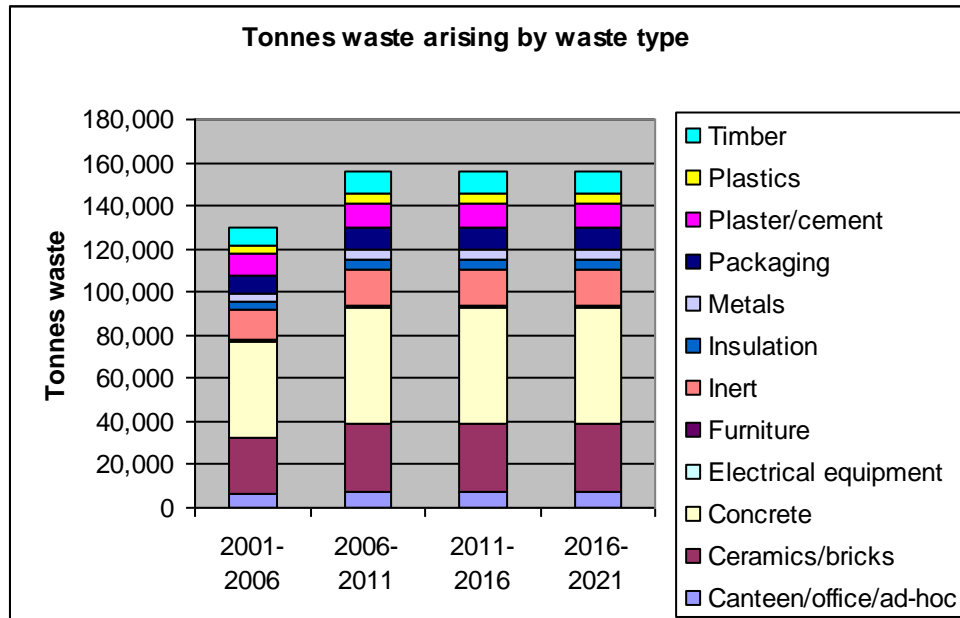
These data are further broken down into waste product type; this is shown for *residential* projects below:

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

For planning purposes, the data have also been used in partnership with Hertfordshire County Council to show predicted waste arisings from new housing within the County. The figure below shows the amount and type of waste that is likely to be produced as a result of the construction of new housing in Hertfordshire.



How the data can be used

These data can be used by all parts of the construction supply chain. For planners the data can be used in the following ways:

Micro level

- Help to assess planning applications in relation to construction waste
- Help with assessing information in relation to Site Waste Management Plan Regulations in England, BREEAM and the Code for Sustainable Homes
- Set evidence-based targets for waste reduction and recovery for projects through planning conditions
- Estimate the likely amount and type of waste arisings for a project
- Move projects from standard to best practice
- Encourage developers to set appropriate waste requirements

Macro level

- Assess development and construction policies in terms of likely amount of waste produced e.g. housing
- Aid in waste planning through assessing existing and future capacities of waste facilities for construction waste

Understanding and Predicting Construction Waste (WR0111)

- Set targets and/or provide appropriate guidance for reduction and recovery of waste in planning policies and guidance

The benefits

Benefits of planners using these data include:

- Help with implementing and enforcing the Site Waste Management Plan Regulations in England
- Provide appropriate targets, guidance and advice for planning applications
- Contributes to the quality and protection of the local environment through planning policies
- Protect resources through the minimisation of waste and better recovery of materials
- Aids with commitment to sustainability

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.
- A local resource planning tool which uses these KPIs and benchmarks is available at www.smartwaste.co.uk
- 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