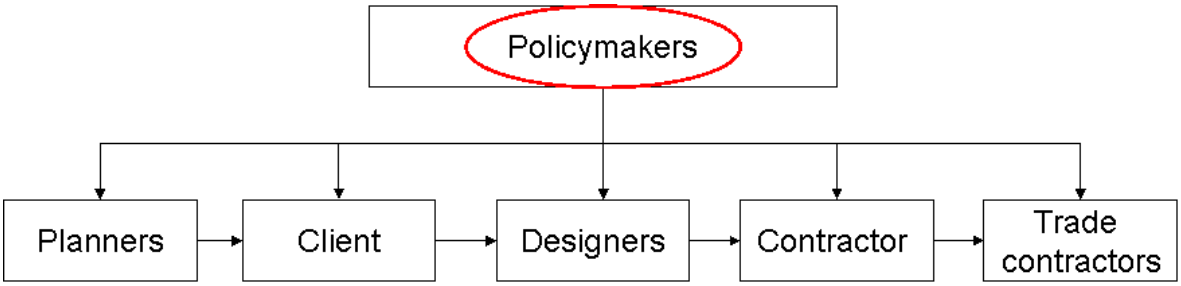
Annex 4: Policymakers – how the data can be used

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 policymakers 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 (m^3)/ 100m^2 of gross internal floor area
- Tonnes of waste / 100m^2 of gross internal floor area
- Volume of waste (m^3)/ £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 including recovery rates for different waste materials.

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 have 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 construction supply chain. For policymakers the data can be used in the following ways:

- Provide data for forecasting and planning for sustainable waste management policy at a construction sector level
- Help to prioritise actions and policies related to construction waste management
- Provide evidence-based benchmarks for measuring and evaluating performance of policies e.g. Site Waste Management Plan Regulations
- Model possible future scenarios and capacities required for recovery of construction waste
- Provide data to help progress the aims and objectives within the Waste Strategy 2007 for England and the Sustainable Construction Strategy.

The benefits

Benefits of policymakers using this data include:

- Provision of data to use for setting and evaluating evidence-based policy in the area of construction waste and resource efficiency
- Data based on real life construction projects
- Continually updated

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