Annex 1 – Construction Resources and Waste Compendium

A wide range of data sources have been evaluated during the CRW roadmap project. This Annex draws together details of all the sources investigated.

This Annex is intended to be a resource to help professionals working within the construction industry find the information they need. The aim was also to assess the robustness, availability and update frequency of the sources gathered and to attempt to identify 'gaps' or inadequacies in the available data.

The information presented in this Annex is based on research completed before August 2007. Some of this information may, therefore, have been superseded.

For definitions of terms and abbreviations used in this Annex, please see the main CRW roadmap document.

A1.1. Introduction

Information on a range of data sources has been gathered to investigate the extent and availability of data and statistics relating to the construction industry and resource efficiency. Information has been separated into 'key' areas, namely:

- construction materials
- waste
- building rates and availability
- energy, emissions and transport
- price books.

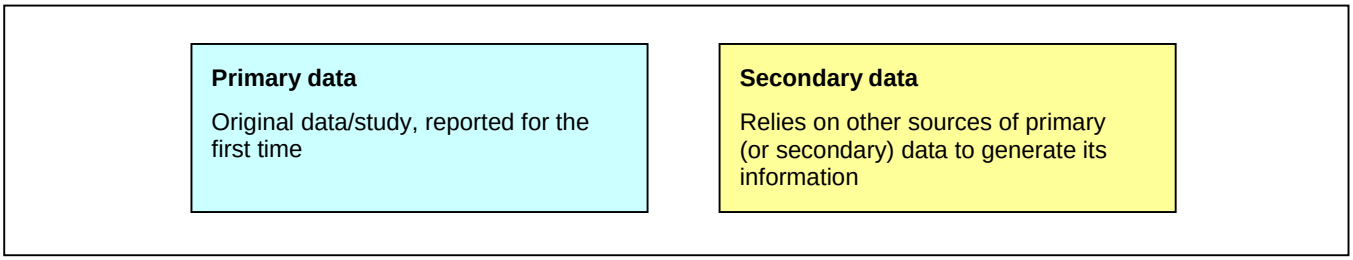
This report initially provides an explanation of the two main types of data available – namely primary and secondary sources. Examples are then given of typical situations for which this data is called upon, showing the importance of its availability and quality to the construction sector. It then summarises the nature of the data obtained under each of the above mentioned categories, highlighting any gaps and/or inadequacies in the information available. Details are then provided about each of the information sources identified, including a qualitative assessment of the statistical robustness of the data, resulting in an overall relative 'score' for each source, where possible. The basis for this scoring mechanism is given in A1.4.

A1.2. Primary and secondary data sources

In this report, information sources have been categorised as 'primary' or 'secondary' and it is important to highlight the distinction that has been drawn between each for the purpose of this study.

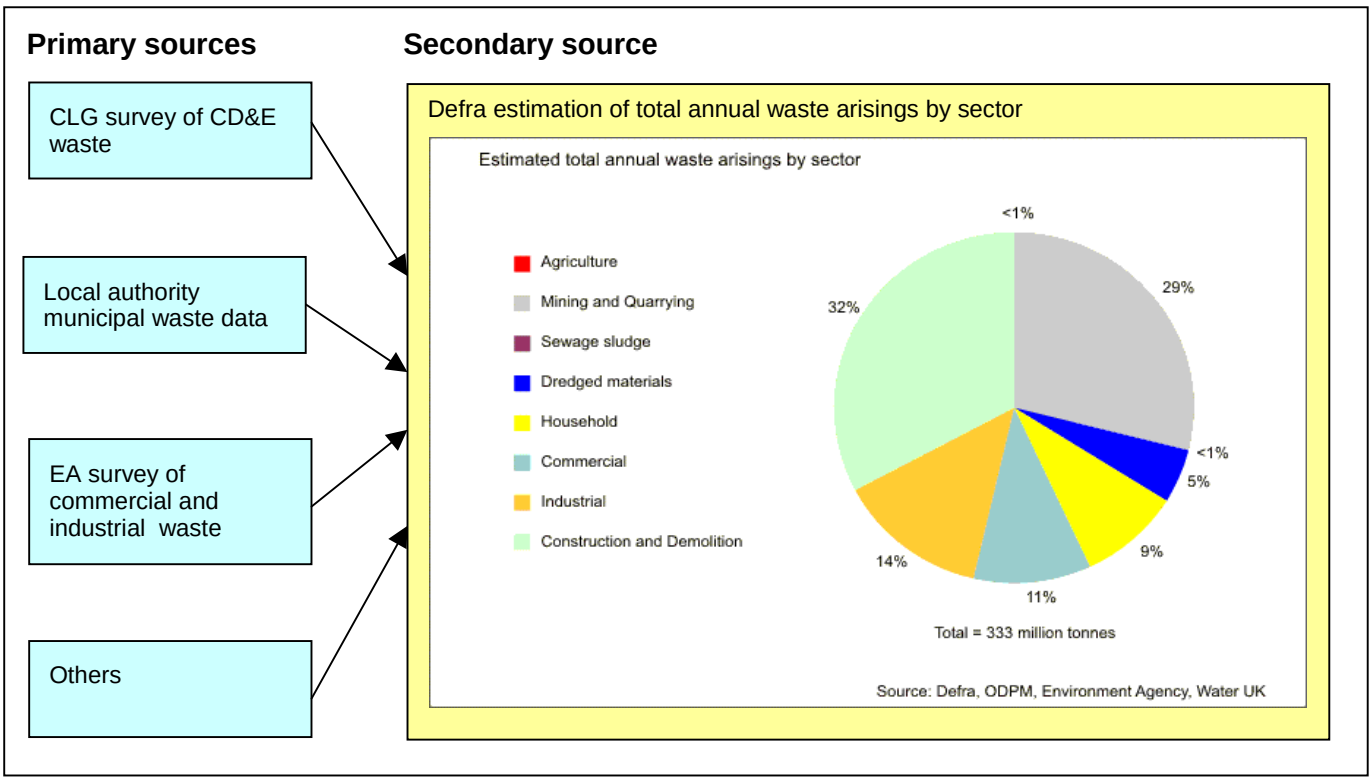
Primary sources provide original information, presented for the first time. Sources that rely on others for their information, or collect data from a range of different studies, become **secondary sources** (hence many published sources are secondary).

If secondary sources manipulate the primary data, to effectively produce 'new' data, it must be remembered that the original data source may not have been specifically intended for this purpose and certain degrees of estimation or inaccuracy may have been introduced. When assessing the quality of information represented in a particular source, it is important to drill down to the primary data that contributed to the study, in order to assess its accuracy and the effect on any calculations in which it may have been used.



For example, the government's Department for Communities and Local Government (CLG) carries out a survey of waste management facilities every two years, which is published as the Survey of arisings and use of construction, demolition and excavation waste as aggregate. This is considered a **primary source** as it generates new, original data. Defra then uses this information, along with other sources on municipal waste, commercial and industrial waste, agriculture waste data and other sources, to produce overall figures for the waste produced annually in the UK. Although it has effectively created 'new' information, it was dependent on the information from each of the individual studies that contributed to it. Their accuracies will each contribute to the overall accuracy of the newly

generated data. If these studies were carried out in different years, for example, combining their findings to represent a single year introduces an element of estimation to the results.



How data is used

As already highlighted in the example above, there may be many uses for the information generated for the construction industry. Commonly, it is extrapolated to model future behaviours. Manufacturers may require the data to assess their market penetration or to guide material selection based on established product performance. Government may rely on predictions of material use, build rates or waste generation to make provisions for disposal or to guide investment in future infrastructure and developments.

There is a range of comprehensive studies that BRE carries out that call on a wide variety of data sources to provide useful overviews of particular aspects of construction. Some of these are highlighted below, although more detail will be given in the appropriate tables later in the report.

Whole life costing (WLC)

In brief, the purpose of a whole life costing study is to establish the costs associated with a building, not only during planning and construction, but through its operation, maintenance and finally disposal. Such studies can be used to inform up-front choices between various competing building designs – for example, to ensure that the most appropriate is selected based on cost of ownership rather than just initial build costs. (Although a building may cost more to construct initially, its improved energy performance may save the owners money during its operational life, compared to a cheaper design that was perhaps less energy efficient.)

Such a study requires a wealth of information, including, but not limited to:

- construction types
- materials section
- material costs
- wastage rates
- design and planning costs
- worker costs
- modelled energy requirements and associated costs
- maintenance requirements and costs
- typical service life of components (and buildings in general)
- methods and cost of disposal (or recycling and reuse).

The combination of such a wide variety of factors means that estimations or inadequacies in any of the individual data sources used could lead to significant over- or underestimates when calculations are made. However, since the methodology is consistent and the most reliable primary data sources are sought, there is assurance that all studies will be accurate relative to each other, resulting in the best available information that could be provided to a client.

Environmental profiles (EP)/Life cycle assessment (LCA)

Environmental profiles are a form of life cycle assessment, and in many respects have similarities to the principle of whole life costing. However, whereas WLC looks at the monetary costs associated with a building over its life, LCA looks at the environmental impact of materials or a product over their anticipated lifecycle (an environmental 'cost'). BRE undertakes studies to model the impact of construction products, from the extraction of raw materials through to their eventual disposal. An overall 'score' is provided in Ecopoints – the lower the Ecopoints the less environmental impact a product has.

To derive this Ecopoints score, a wide range of data is required, including:

- energy from extraction and processing of raw material inputs
- product manufacturing and processing energy
- emissions associated with energy usage
- packaging associated with product
- transport emissions of raw materials and products
- anticipated lifespan of product
- recyclability and end of life impacts.

The information is used to provide an overall comparative picture of the environmental impact of a product, which can be used by designers and specifiers to make informed decisions on which products they wish to use in their building.

Market Transformation Programme Studies (MTP)

These studies, carried out to inform government policy, aim to comprehensively describe a specific product category, including the nature of the product's use, a model of likely future waste arisings, and the waste collection and reprocessing systems that exist or could be established to reduce the impact of waste associated with the use of the product.

Information is usually required on:

- product sales and market
- import and export of products
- wastage rates and possible disposal routes

- likely future use, which in itself may require…
  - volumes/mass of material used in an installation
  - building rates
  - demolition rates
  - information about building regulation standards and likely changes.

MTP reports could potentially call on virtually any of the information sources contained in this compendium, depending on the product being examined.

Other studies

Many other secondary sources will call on a comprehensive range of data, including the Mass Balance studies sponsored by Biffaward, shown later.

A1.3. Data availability by topic

This section provides a brief summary of the type of data available by category. Some of the key data providers are noted where appropriate. Commentary is also given on the gaps or inadequacies that appear in the data. Other sources may be available to fill these gaps, but they have not been identified by this study, suggesting that their availability may be restricted or their location unobvious. It is intended that a roadmap will be developed to identify the most appropriate organisation to collect some of the 'missing' data, if it is deemed sufficiently necessary for the industry.

Construction materials and waste (inter-related)

Generalised data available about construction sector:

- SmartWaste (BRE)
- Environmental profiles/LCA (BRE)
- Mass balance studies (Biffaward, Viridas, ONS material flows)
- Building product market research (AMA, BSRIA, etc)
- Construction industry forecasts (market forecasts) (CPA)
- Total CDEW and hazardous waste to landfill (CLG, NFDC, Defra, EA, SEPA)
- Waste by sector (and recycling) (Defra)

Use

Information can be used to calculate material use by value and/or volume. It could also be used to predict market share, future trends, recycled content, likely waste arisings, or the environmental impact of materials and products.

Gaps or inadequacies

There is no survey that collects information about the overall amount of construction products used (or imported or exported). Prodcom would be the obvious source but it does not appear to give the 'whole picture' for construction products, as construction is not a separate section and product information is distributed throughout the various Prodcom reports. It is particularly difficult to obtain an overall view of a product category such as 'insulation', because the various materials used are reported along with other products of similar composition and not

separated out by industry. Similarly, although data on 'windows' is available, it is separated across several reports (wood, plastic, metal). It may be more helpful if the data were separated by different categories.
The Construction Products Association (CPA) may be anticipated as a potential source for such information, but there is no doubt that it would be very difficult to collect the quantity of data required to get a full picture of the construction products sector.

Another concern is that overall data on construction demolition and excavation waste (CDEW) is based largely on aggregates and related excavation waste, such as soils and does not appear to cover ALL potential construction wastes (such as metals, plastics, wood). In particular, information from the CDEW survey by CLG is widely used (by Defra for example) to indicate wastage from the construction sector. However, if it only considers aggregates-type waste, it could be a significant underestimate of the overall waste associated with construction.

BRE studies using Smartwaste (some published information papers and documents available) appear to have the most detailed breakdown of site waste, but are only based on a relatively small number of investigations, relative to the whole construction industry.

One of the topics for which data appears to be significantly lacking for all construction product groups assessed is wastage rates and disposal. This information would help make the environmental profiling and LCA process more reliable for instance.

Some product sectors have poor information on production and consumption, possibly due to the wide range of different 'types' of products that make up the sector, e.g. roofing, insulation, timber products, flooring. While information such as this is difficult to obtain on this range of products, it will be an obvious barrier to obtaining data on the overall use of products and materials in construction on the whole.

Building rates and availability

Information available:

- new orders, starts and completions and levels of existing stock by sector, region, year, tenure (DTI,/CLG,/ONS,/WAG,/and OECD for international data)
- existing housing and population estimates (CLG)
- house condition surveys (CLG).

Use

Such data may be useful to predict future build rates or necessary refurbishment work, which may be related back to the amount of construction materials that will be used/wasted.

Gaps or inadequacies

As well as knowing current build levels, it would be useful if an indication of build type was also documented. This would help researchers to understand better how popularity of particular build methods may vary over time. It would also help predict material/product demand by gauging the requirement for particular construction methods. Some trade associations (e.g. UK Timber Frame Association) may already publish data about the use of their members' systems/methods, but it would be difficult to obtain all the necessary information for every build type to give an accurate overall picture. It would probably be better if some method of independently gathering this data were adopted, (as part of the collection process when building start information is obtained, for example).

Energy, emissions, transport

Information available:

- energy consumption, by industrial sector (ONS Environmental Accounts)
- oil and gas reserves (ONS)
- energy production and consumption of world countries, by sector (OECD)
- water use, by UK industries (ONS Environmental Accounts)
- emissions, by industrial sector (ONS Environmental Accounts)
- emissions for world countries (OECD)
- transport – goods lifted by commodity, length of journey, etc (DfT).

Use

Information can be used to assess energy use in buildings and predict future trends. It may also be possible to calculate emissions from various sources. Haulage information can be used to estimate the energy/resources and emissions associated with the transportation of raw materials and products for the construction industry.

Gaps or inadequacies

Obtaining information specifically related to the construction industry is difficult and where/if available it is not broken down sufficiently to attribute to specific causes, such as type of build or related to a particular material use. For example, transport figures are broken down into several generic categories, but it is difficult to attribute transport to specific products or systems. (This is cited as a current problem for the derivation of environmental profiles for products/LCA.)

Cost models/price books

Information available:

- Price books, e.g. SPONS (Davis Langdon, Laxtons, Wessex, etc)
- Cost data – (BCIS, BMI)
- Whole life cost studies (BRE).

Use

Such data is used to generate whole life costing predictions for developments, with WLC data itself being potentially used to decide on materials selection and so on. Cost models can also be used to give baselines to predict the potential costs if new measures/systems were implemented.

Gaps or inadequacies

Price books generally use built-in predicted wastage rates to gauge order quantities and costs. The method by which such wastage uplifts are predicted is not widely disclosed but is apparently based on the experience of surveyors. The intention is not particularly to reflect accurate ‘wastage rates’ but to instead ensure that contractors do not lose out due to insufficient order quantities. There does not appear to be reliable, scientific data relating to anticipated wastage rates, which could result in significant wastage of over-ordered construction products.

A1.4. Statistical assessment of data sources

The statistical robustness of all data sources identified was assessed, in an attempt to provide some measure of the quality of data available for the construction industry.

A qualitative assessment has been translated into a quantitative 'score', under a series of six categories. The scores generated are relative for this study and are based on the information that was available to make the assessment. It does not necessarily indicate a 'good' or 'poor' data source, but more a reflection of the clarity, objectivity and extent to which the methodology is explained.

If no score is given in a particular category, this indicates that it has not been possible to tell how biased, accurate, timely, etc. a data source is. The categories assessed and the grounds on which the scores have been derived are given in the table below. Each data source described later in this document carries an assessment of this nature, where possible.

Category	Definition	Score
Objectivity	This refers to the objectivity of the group that collected the data and the transparency of collection method. For example, a study conducted by an independent organisation would presumably be more objective than a company that conducts a review of its own data.	1: Highly biased 2: Partially biased 3: Unbiased
Clarity of methodology	This is a measure of the accuracy and reliability of the methodology. This includes notes on whether the methodology is clearly defined and consistent within the study and with other studies of this kind.	1: Methodology is poorly explained or implemented 2: Fairly clear 3: Clearly defined and implemented methodology
Timeliness	Timeliness refers to whether the study is a one-off or whether the data is reviewed and re-published regularly. Notes will also be included on the consistency of the data and whether the collection process is re-produced in the same way each time.	1: One-off study 2: Will be reviewed but not regularly 3: Reviewed regularly
Scope	This measures how wide the scope of the report is – what geographical region is covered, how many topics are covered, how specific the data is. For the purposes of this work, UK-wide data is considered sufficient geographic scope	1: Specific data 2: Fairly wide-ranging data 3: Wide-ranging data
Gap filling	This category notes whether any gap filling or estimation has been used where exact data is not available.	1: Lots of estimation used 2: Some estimation used 3: No estimation used

Statistical clarity	Notes will be included in this section as to whether the study has been conducted in a statistically unbiased way, whether a sufficient sample size has been used, whether the statistical techniques used are appropriate (if applicable), etc. A low score in this section does not necessarily mean that the study was conducted poorly – the intention with many of these datasets may not be to present statistical data.	1: The study is not designed to be a statistically unbiased study 2: Some attention to statistics 3: A "statistically sound" study
Sample size/ response rate	If information is provided on the sample size or the response rate of the survey, then that information will be given here. This will not be included in the grading system because that information is often not reported.	

A1.5. The compendium

Index of sources

Primary sources	
Construction materials	
BGS	Aggregates Minerals Survey 2001
BRE	BigRec survey
ONS	AMRI – Annual Minerals Raised Inquiry
ONS	ProdCom
UKQAA	Statistics for by-products of coal-fired power stations
Building rates and availability	
CLG	English House Condition Survey (EHCS)
CLG	Survey of English Housing (SHE)
DTI	New Orders
Waste	
BRE	SmartWaste
CLG	Construction, Demolition & Excavation Waste Survey 2003
CLG	Survey of Secondary Material Arisings and Use 2001
DEFRA	Packaging Recovery and Recycling
EA	Commercial & Industrial Waste Survey
WRAP	Recycling Plasterboard Waste from Refurbishment Sites
Energy, emissions and transport	
DfT	Transport Statistics Bulletin

Secondary sources	
Construction materials	
AMA Research	Evidence Gaps for Construction Product Data
Biffaward	Mass Balance Report
City Limits (London)	Resource Flow and Ecological Footprint (Biffaward)
Forum for the Future	Mass Balance Report (Biffaward)
TRIC	Mass Balance Report – Timber (Biffaward)
Viridis	Mass Balance Report – Construction (Biffaward)
BRE	Environmental Profiling/Green Guide
CPA	Construction Industry Forecasts
CPA	Construction Market Trends

CPA	Construction Industry Trade Surveys
DTI	Construction Statistics Annual – Building Materials
DTI	Monthly Statistics on Building Materials
Forestry Commission	Forestry Statistics 2006
Forestry Commission	UK Timber Statistics 2006
Iron and Steel Statistics Bureau (ISSB)	Various
Leading Edge	Construction Sectors/Building Materials Forecast
AMA Research	Market Research Reports
BSRIA	Market Research Reports
Construction Markets	Market Research Reports
MBD	Market Research Reports
Palmer	Market Research Reports
MTP	Market Transformation Programme Reports
ONS	Environmental Accounts – Material Flows
WRAP	Opportunities to use Recycled Materials
WRAP	Opportunities to use Recycled Materials (housebuilding)
WRAP	Choosing Construction Products – Recycled Content
QPA	Aggregates Industry at a glance
Building rates and availability	
Build Offsite	Value of UK Market for Offsite
CLG	Housebuilding
CLG	Household & Population Estimates
CLG	Previously Developed Brownfield Land
CLG	Stock
DTI	Construction Statistics Annual – New Orders
OECD	Construction, Dwelling Starts
ONS	Completion of New Dwellings
WAG	Quarterly Newbuild Release
Waste	
BRE	IP8/02: Construction Site Packaging Wastes
DEFRA	Construction & Demolition Waste Management
DEFRA	Industrial & Commercial Waste Management
DEFRA	Materials Recycling Compared to Consumption
DEFRA	Total Waste Generated by Sector, 2004
DEFRA	Waste Arisings and Management
EA	Construction, Demolition & Excavation Waste Survey

EA	C&D Waste to Landfill
EA	Hazardous Waste – Strategic Waste Management Information
EA	Hazardous Waste – Disposal and Recovery Options
EA	Hazardous Waste – National Trends & Management
EA	Hazardous Waste – Movement of C&D Waste
EA	Regional Variations in CD&E Waste Production and Use
EA	Strategic Waste Management Information
EA	Waste Composition & Methods of Disposal and Recovery
LDA	Creating Resource from London's Waste
Energy, emissions and transport	
OECD	Emissions & Pollution
OECD	Energy Consumption & Electricity Generation
OECD	Energy Production
ONS	Atmospheric Emissions
ONS	Energy and Emissions
ONS	Oil & Gas Reserves
Cost models and price books	
BRE	Whole Life Costing
Davis Langdon	Spons Price Books
Laxtons	Building Price Books
RICS	Building Cost Information Services (BCIS)
RICS	Building Maintenance Information (BMI)

Primary sources

Construction materials

Organisation	**BGS – British Geological Survey**
Data source/title	**Aggregates Minerals Survey 2001**
Topic	**Construction Materials**
Info available	Data on regional and national sales, consumption, inter-regional flows, transportation and permitted reserves of primary aggregates (and china clay waste). Separate surveys of alternative materials, such as selected mineral wastes, construction and demolition wastes and industrial by-products were also undertaken for 2001. (Noted under ODPM/CLG in 'Waste' Topic section).
Update frequency	Updated every 4 years (currently 2001 data, published in 2003).
Methodology	Information collected for England and Wales, and for individual regions from aggregate producers by Mineral Planning Authorities (MPAs) using a standard form. It was subsequently collated at regional level by the relevant Regional Aggregates Working Party Secretary (RAWPs) and at national level by BGS on behalf of ODPM and WAG. Previous versions published approximately every 4 years, back to 1973.
Availability	Copies of the report (CR/03/53N) can be purchased from BGS Sales Desk, Keyworth, Nottingham NG12 5GG; Tel: 0115 936 3241; E-mail: sales@bgs.ac.uk, price £10. The AM2001 report can be downloaded from the website: http://bgs.ac.uk/mineralsuk.
Links (i.e. uses data from other sources)	ODPM/CLG.

Organisation	British Geological Survey	
Data source/title	Aggregates Minerals Survey 2001	
Objectivity	The data was collected from aggregate producers by Mineral Planning Authorities using a standard form. It was collated at the regional level and then at the national level by the British Geological Survey.	3
Clarity of methodology	The AM2001 survey was conducted using two inquiry forms (Form A and Form B). The form was forwarded to relevant sites in England and Wales for completion and return by quarry operator/owners. Copies of the survey forms are provided in the report.	3
Timeliness	Updated every 4 years.	2
Scope	Data is provided on regional and national sales, consumption, inter-regional flows, transportation, etc. Separate surveys of alternative materials, such as selected mineral wastes, construction and demolition wastes and industrial by-products was undertaken in 2001. The sample consists of data from 108 authorities (there are 183 authorities in total, but those with no aggregate mineral workings were excluded).	3
Gap-filling/estimation	Some estimates were used to fill in values for non-responses.	2

Statistical clarity	It indicates that the data has been presented in a style that is consistent with previous surveys. Though it says that every effort has been made to ensure the accuracy of the figures presented, it doesn't give any details. No details are given as to how estimates were made when needed – they seem to be estimates made by experts in the field.	2
Response rate	90% response rate for survey Form A. Response rate for Form B not given.	
Comments	Further statistical information could have been provided.	
	Score:	15

Organisation	**BRE**
Data source/title	**IP7/00: Reclamation and recycling of building materials – industry position report** (Considered a Primary source, because it reports directly on results from the Salvo/BRE reclamation survey)
Topic	**Construction materials**
Info available	Sales values and tonnes of recovered material in given sectors, namely architectural antiques, ornamental antiques, reclaimed materials (including timber beams, bricks and stone etc.), salvaged materials (e.g. iron, steel and timber) and antique bathrooms. Percentage of type of products recovered for each material category, such as metals, timber, stone, etc. Average transport distances of reclaimed products.
Update frequency	Published in 2000. The survey itself is currently being updated and is due for publication by March 2008. May be smaller, equivalent regional surveys carried out in the future.
Methodology	Document reports on a DETR research programme survey that was carried out by BRE and SALVO, investigating the UK trade in antique and reclaimed building materials. Thought to be the first such survey in Europe. Survey used two separate questionnaires: • 10 word summary of main business activity and total sales turnover figure – 288 completed • 26 page questionnaire with detailed questions for a range of products – 88 completed.
Availability	Available from BRE – www.brebookshop.com. Downloadable from IHS – Construction Information Services. Full report available from SALVO. www.salvoweb.com.
Links (i.e. uses data from other sources)	

Organisation	BRE	
Data source/title	IP7/00: Reclamation and recycling of building materials – industry position report	
Objectivity	The survey was carried out by BRE and SALVO.	3
Clarity of methodology	Document reports on a DETR research programme survey, investigating the UK trade in antique and reclaimed building materials. The survey used two separate questionnaires: 1. A ten-word summary of main business activity and total sales turnover figure – 288 out of 1200 were completed 2. A 26 page questionnaire with detailed questions for a range of products – 88 out of 600 were completed.	2
Timeliness	A one-off study published in 2000.	1

Scope	Sales values and tonnes of recovered material in given sectors, namely architectural antiques, ornamental antiques, reclaimed materials, salvaged materials (e.g. iron, steel and timber) and antique bathrooms. Percent of type of products recovered for each material category, such as metals, timber, stone, etc. Average transport distances of reclaimed products.	2
Gap-filling/estimation	Some estimates were used.	2
Statistical clarity	Some information is provided on response rates to the surveys. There is no indication if the responses provide a good estimation of the sector as a whole.	2
Response rate	24% and 15% response rates to the two surveys.	
Comments	This report gives information on a topic where there is little information available. It would be useful if the survey was conducted on a regular basis.	
	Score:	12

Organisation	**ONS**
Data source/title	**AMRI – Annual Minerals Raised Inquiry – Business Monitor PA1007 Minerals Extraction in GB**
Topic	**Construction materials**
Info available	Contains data on the extracted sales of chalk, clays, crushed rock, dolomite, granite, gypsum, limestone, ore minerals, peat, salt, sandstone, sand and gravel, slate plus a few minor minerals; by end use and area of origin. Information is published, by mineral, at both county and region level. AMRI is designed to provide a consistent time series of commodity data for economic/market analysis mainly by central government, but also industry and market analysts.
Update frequency	The AMRI is apparently updated every year. The Inquiry is carried out annually, with results published each October after the reference year. 2005 latest data, published in 2006.
Methodology	The register of some 2,200 different sites is supplied and kept up-to-date by HM Inspectorate of Mines and the Health and Safety Executive. The Inquiry is conducted by the Office of National Statistics (ONS) on all quarries and mines in Great Britain, excluding deep coal mines. The results in this monitor are based on a response of 99 per cent of the total number of forms sent out. Estimates for non-response are included throughout the tables as appropriate. The Office for National Statistics (ONS), through the AMRI, collects and publishes information on extractors' sales of aggregates within Great Britain on behalf of ODPM. It is a statutory survey carried out under the Statistics of Trade Act 1947. The results are published annually in the Business Monitor PA 1007 Minerals Extraction in Great Britain.
Availability	Available to download as Excel spreadsheets from ONS website: www.statistics.gov.uk. Also available for previous years (2002 and 2003) from CLG website, e.g.: www.statistics.gov.uk/downloads/theme_commerce.
Links (i.e. uses data from other sources)	DTI, DCLG, ONS.

Organisation	ONS	
Data source/title	AMRI – Annual Minerals Raised Inquiry – Business Monitor PA1007 Minerals Extraction in GB	
Objectivity	The study is conducted by the Office for National Statistics based on survey data from industry.	3
Clarity of methodology	The methodology is very straightforward and is explained in the notes. The regions and sources of information are clearly defined.	3
Timeliness	The AMRI is updated every year. The Inquiry is carried out annually, with results published each October after the reference year. 2005 latest data, published in 2006.	3
Scope	Information covering all mines and quarries, except deep mined coal, for mineral extraction in Great Britain. Information is published, by mineral, at both county and region level.	3
Gap-filling/estimation	Some estimates for non-responses are included in the tables as appropriate.	2

Statistical clarity	The results in the report are based on a response rate of 99% of the total number of forms sent out. The survey is statutory carried out under the Statistics of Trade Act 1947 which is why the response rate it so high.	3
Response rate	99% response rate.	
Comments	None	
	Score:	17

Organisation	**ONS**
Data source/title	**PRODCOM**
Topic	**Construction materials**
Info available	The Office for National Statistics compiles a survey on PRODucts of the European COMmunity (PRODCOM), a harmonised system across the European Community for the collection and publication of product statistics. It is compiled from United Kingdom manufacturers on an annual basis and covers approximately 25,000 businesses. Data are available on the value and volume of UK manufacturers' product sales, merchanted goods, work done, sales of waste products and residues, and all other income. Also total turnover for the industry. PRODCOM began in 1993, classified to the Standard Industrial Classification of Economic Activities 1992, replacing the quarterly sales inquiry (QSI) and annual sales inquiry (ASI), started in 1969 and 1989 respectively. Under PRODCOM there was an increase in both the number of contributors and in the number of products covered. PRODCOM data can be directly matched with the trade data collected by Her Majesty's Customs and Excise. This is published alongside the PRODCOM data making possible a complete picture of the market for each product. It is occasionally difficult to obtain data for certain product types (not covered explicitly by product classification codes?), e.g. timber, plastic and insulation products.
Update frequency	Updated annually. (Some industries updated quarterly until 2005 – quarterly updates no longer made as not widely utilised. Volume of material sales may not be available after 2001 – ONS decided it was problematic for businesses to collect.)
Methodology	Voluntary survey questionnaire sent out to a 'sample' of the industry. Not all industries covered particularly well, so difficult to segregate some product types. Given the vast number of variables being surveyed, the UK developed the concept of a personalised questionnaire for businesses selected for the survey. The business is only asked to provide data for those products which it is known to manufacture. Although the results of PRODCOM surveys cover businesses of all sizes, the ONS is particularly conscious of the load that providing information can impose on the smallest businesses. It puts effort into sampling for these businesses and ensuring that no more than necessary are selected. The sample design selects businesses by employment size and industry classification. Additional constraints are built into the sample design with a view to restricting the burden of form filling on smaller firms. Rotation of the sampled firms takes place every survey period. Small firms of size 0–9 employment are guaranteed a survey holiday of three years after they have been selected for the inquiry. Note on Errors and Quality available as a PDF from ONS website.
Availability	Available via ONS website: www.statistics.gov.uk.
Links (i.e. uses data from other sources)	HMCE data used.

Organisation	ONS	
Data source/title	PRODCOM	
Objectivity	The Office for National Statistics compiles a survey on PRODucts of the European COMmunity (PRODCOM), a harmonised system across the European Community for the collection and publication of product statistics. It is compiled from United Kingdom manufacturers on an annual basis.	3
Clarity of methodology	The methodology is explained clearly and is applied consistently to update the data. The data is collected using a large sample survey (stratified random sample).	3
Timeliness	The data are updated annually (and previously quarterly).	3
Scope	Data are available on the value and volume of UK manufacturers' product sales, merchanted goods, work done, sales of waste products and residues and all other income. Also total turnover for the industry. It covers approximately 25,000 business annually and previously 4,500 quarterly.	3
Gap-filling/estimation	The survey data is used to estimate the information for the UK as a whole. The method for doing so is explained clearly.	1
Statistical clarity	The data undergoes three main types of statistical procedures: validation, imputation and estimation. Returned data from the contributors is validated at a number of stages during results processing. They even report the standard error.	3
Response rate	Information given for 2004 shows response rates between 80–90%.	
Comments	Overall, ONS provides an unusually high level of information regarding the collection and analysis of PRODCOM data. Assuming that the same methodology is applied consistently to each product area, this dataset is certainly designed to be as statistically robust as possible. There is some evidence that not every industry is covered as well as it should be – the data would have to be examined for each industry to establish whether this is the case. Because the survey results are used to estimate the data for the whole of the UK, there will always be a good deal of uncertainty, but the survey is conducted in such a way to minimise the possibility of sampling error.	
	Score:	16

Organisation	**UKQAA – UK Quality Ash Association**
Data source/title	**Statistics for by-products of coal fired power stations**
Topic	**Construction materials**
Info available	Shows the proportions of products utilised and their main applications.
Update frequency	Appears to be updated annually. Latest data available for 2004.
Methodology	No indication of methodology. Assume that data is collected directly from their members, i.e. coal fired power stations.
Availability	Available to download from UKQAA website as PDF file: www.ukqaa.org.uk/PowerStation.html#Statistics.
Links (i.e. uses data from other sources)	

Organisation	UKQAA – UK Quality Ash Association	
Data source/title	Statistics for by-products of coal fired power stations	
Objectivity	The UKQAA aims to promote the scientific, technical, industrial, environmental, educational and legal nature associated with applications for coal ash produced from UK coal fired power stations.	2
Clarity of methodology	No indication of methodology. Assume that data is collected directly from their members, i.e. coal fired power stations.	2
Timeliness	Appears to be updated annually (2004 is latest data).	2
Scope	Shows the proportions of products utilised and their main applications.	1
Gap-filling/estimation	No information provided.	
Statistical clarity	No information provided.	
Response rate	No information provided.	
Comments	This is an example of a source where no information is provided as detailed above, but there seems to be a general acceptance that it is robust.	
	Score:	7

Building rates and availability

Organisation	**CLG** (Considered Primary because the data is gathered specifically for the purpose of this study, even though collected by several organisations)
Data source/title	**Housing statistics – English House Condition Survey (EHCS)**
Topic	**Building rates and availability**
Info available	EHCS collects information on the condition and energy efficiency of housing in England. Only national survey involving physical inspection of property by professional surveyors. Separate surveys carried out in Scotland, Wales and NI. Also complementary survey – the Survey of English Housing, giving details on household information. Divided by owner occupied, rented, social sector. Age of stock by tenure etc. Details of properties meeting Decent Homes Standards.
Update frequency	Reports from 1971 to 2001 every five years. From April 2002 EHCS run on a continuous basis to allow the government to monitor targets on an **annual basis**. 1996, 2001, 2003 and most recent 2004 version available on website (2004 report published in 2006, i.e. 2 year delay on publication of data).
Methodology	Target to achieve 8000 core cases where both visual inspection and household interview taken place (or just visual inspection for vacants). Interview with householder – about satisfaction with home and area, work done on property, income etc. Physical survey – internal and external by qualified surveyor. Number and type of rooms, facilities, condition of physical structure, heating, parking, neighbourhood quality. Market value survey – two market valuations based on current condition and potential if repairs were undertaken and info on housing market in immediate area. Private landlord survey – info on landlord experiences and attitudes, number of properties owned, etc. **ONS** manages the EHCS on behalf of CLG. ONS responsible for undertaking interviews, sampling, weighting and data validation. **Miller Mitchell Burley Lane** (MMBL), responsible for undertaking the visual inspection of the properties. **BRE** develop physical surveys and surveyor training and material. Responsible for validating data, developing and running models to create analytical variables such as repair costs. **Valuation Office Agency** (VOA) provide market valuations and info on local area and housing market.
Availability	Available as free PDF download via CLG website: www.communities.gov.uk.
Links (i.e. uses data from other sources)	Data also used by Defra and DTI regarding fuel poverty, energy consumption, heating patterns, targets for CO_2 emissions. ONS manages the EHCS on behalf of CLG.

Organisation	ONS on behalf of CLG	
Data source/title	English House Condition Survey	
Objectivity	The survey is conducted under the National Statistics Code to high professional standards. Variety of methods are used in other to achieve objectivity. Information sources and organisations involved in the process of collecting and analysing data are accurately identified.	3
Clarity of methodology	General methodology, terms, conversion methods and variation of methodology are clearly defined.	3
Timeliness	It was intended that this work would be updated annually. However the report for 2004 was released in 2006 – there appears to be a two-year delay.	3
Scope	The survey covers only England. Separate surveys are conducted for Scotland and Wales.	3
Gap-filling/estimation	Estimates have been made based on the surveys.	2
Statistical clarity	The survey has been conducted in statistically unbiased way taking survey errors into account. Information is presented in a clear way, however no clear reference and consistency with previous studies has been defined.	2
Response rate	In total, 16,502 dwellings were surveyed for this work.	
	Score:	16

Organisation	**CLG** (The SEH is itself considered a Primary resource, even though the information may be integrated with other surveys for reporting purposes)
Data source/title	**Housing statistics – Survey of English Housing (SEH)**
Topic	**Building rates and availability**
Info available	Survey of English Housing (SEH) is an annual household survey which collects information from 20,000 households about their housing. Also complementary survey – the English House Condition Survey, which collects details on the condition and energy efficiency of housing in England. Amongst a wide range of other general household info, survey includes: • info on the year properties were built, by tenure • info on those homes in which energy saving items are installed/used.
Update frequency	Reports based on survey produced annually, at end of financial year (versions available on website include '99/00, '00/01, '01/02, '02/03, '03/04, '04/05 – latest version).
Methodology	Since April 1999 the SEH has been carried out by the National Centre for Social Research (formerly Social and Community Planning Research), a leading social research institute. From its launch in April 1993 until March 1999, the survey was carried out by the Social Survey Division of the Office for National Statistics (ONS). Interviews are carried out throughout the year and the survey is reported on and updated on a financial year basis (i.e., each survey year runs from the beginning of April to the end of the following March). (Still considered an ONS data source.) The sample is designed to yield a nationally representative sample of about 20,000 private households in England. The sample is selected in two stages: first a sample of postcode sectors is selected from the Postcode Address File; then, a sample of addresses is selected within the sampled sectors. The design provides a nationally representative sample in each quarter of the year. Just under 29,000 addresses are selected each year, yielding about 25,000 households eligible for interview. Interviews are achieved with about 80 percent of eligible households (20,000). In addition to tables derived from the SEH, the report also includes some tables that have been constructed using data from the Labour Force Survey (LFS) or the Family Resources Survey (FRS).The LFS has a larger sample than the SEH while the FRS collects data relating to income in greater detail than the SEH.
Availability	Available as free PDF download via CLG website: www.communities.gov.uk.
Links (i.e. uses data from other sources)	ONS, National Centre for Social Research, LFS.

Organisation	DCLG	
Data source/title	Housing Statistics – Survey of English Housing	
Objectivity	Carried out by the National Centre for Social Research for Communities and Local Government, which is responsible for housing policy in England, to high professional standard.	3
Clarity of methodology	Methodology is clearly explained and definitions of terms are given. All information about terms, categories and regions is included in Appendix.	3

Timeliness	Updated annually.	3
Scope	Provides information for England by regions and districts. Wide range of issues and topics are covered, including socio-economic considerations.	3
Gap-filling/estimation	Estimation was used to fill several data gaps. The survey data was used to estimate values for the population as a whole.	2
Statistical clarity	A representative sample is used. The chosen sampling method is designed to exclude 'large users' such as business. The sample is selected in two stages. Sampling errors are identified and explained.	3
Response rate	Response rates of 67–97% have been achieved in different categories and sectors.	
Comments	Based on information from 18,386 households interviewed in 2004.	
	Score:	17

Organisation	**DTI**
Data source/title	**New orders in Construction Industry**
Topic	**Building rates and availability**
Info available	Information bulletin of the latest monthly estimates of construction new orders, and some back data. Contains construction new orders (current price and constant price seasonally adjusted) broken down by sector and, in current prices, by region and by type of work. (Also by region, county and district.) *(Also forms part of the 'Construction Statistics Annual' from DTI which, along with the 'Housing Statistics' from CLG, replace the 'Housing and Construction Statistics Annual Volume' from 2000 onwards.)*
Update frequency	Monthly update
Methodology	The Construction Market Intelligence branch (CMI) is responsible for the collection of construction data and statistics in DTI and has been operating since 1958 when it began to collect information from companies connected with the construction industry. Data collected through regular sampling across a wide range of firms, large and small.
Availability	Previous 12 months available to download as PDFs from DTI website: www.dti.gov.uk. Appears to be carried out by ONS (so referenced on their website) but data held by DTI.
Links (i.e. uses data from other sources)	ONS.

Organisation	DTI	
Data source/title	New orders in Construction Industry	
Objectivity	Appears to be carried out by the ONS (so referenced on their website) but data held by DTI.	3
Clarity of methodology	Not sure of their sampling method or how they decide who to survey. It is related to ONS, so may be sampled via them.	1
Timeliness	Information bulletin of the latest monthly estimates of construction new orders, and some back data. Updated monthly.	3
Scope	Contains construction new orders (current price and constant price seasonally adjusted) broken down by sector and, in current prices, by region and by type of work. (Also by region, county and district.)	3
Gap-filling/estimation	No mention of gap filling or estimation.	
Statistical clarity	Data collected over a wide range and reported graphically and in tables. Data collected through means of regular sampling across a wide range of firms, large and small.	3
Response rate	Not given.	
Comments	Not sure of their sampling method or how they track down people to send surveys to. Further info may be available via neworders@dti.gov.uk.	
	Score:	13

Waste

Organisation	**BRE**
Data source/title	**SmartWaste**
Topic	**Waste**
Info available	SmartWaste is a series of tools developed by BRE to monitor and measure waste produced on construction and demolition sites. The two main tools include SmartStart and SmartAudit. *SmartStart* Provides information on waste generated on site under 14 categories, by value and volume. Surveys can be used to target specific areas to reduce waste and to record any that is segregated for recycling. *SmartAudit* In addition to providing accurate values and volumes of waste generated on site, SmartAudit collects information on the reasons why materials become waste. The information can be interrogated to identify specific areas and strategies for improvement. Information provided on: • type of waste produced • amount of waste (tonnage and or/volume) • cost of waste • percentage segregated on-site, recycled on-site, recycled off-site, diverted from landfill • cost of project • floor area of project • type of project e.g. residential, commercial etc • if the project is construction, refurbishment and/or demolition • type of construction. *Benchmarking* Studies can be used to generate typical data for certain types of construction. BRE is carrying out a project funded by Defra to establish minimum reporting requirements for construction, refurbishment and demolition waste and to generate self-updating performance indicators and benchmark figures. The minimum reporting requirements and templates for submitting data will soon be published. Performance indicators will include: • overall tonnage by EWC codes /Unit size /100 m^2 /project value • actual material and bulk breakdown in m^3 /Monthly /Cumulative /Total • actual material and bulk breakdown in m^3 /Unit size /100 m^2 /Value • % rate segregated v. send to landfill • waste cost as % of project costs • waste cost as % of company turnover • waste cost /100 m^2 floor area • waste cost /Unit • waste cost /£100,000 • cost of segregation vs non segregation • waste produced by an employee

	• waste produced by man hours worked • hazardous waste removal cost as a % of total waste removal cost. These performance indicators will be broken down into project type, construction type, regions and also by % completion of the project. Information can be used for: • setting of waste targets • comparison of performance at a site, company, regional and national level • estimation of waste throughout a project • setting contractual clauses/conditions for a project • site waste management plans (SWMPs) • planning applications.
Update frequency	Studies are usually carried out for and by specific clients. There is no regular update frequency. However, the Benchmarking programme, developed for Defra, will be continually updating depending on the studies submitted by contractors. BRE occasionally produces publications or guidance documents for use by industry. However, again, these are likely to be one-off and not updated frequently.
Methodology	Data collected in 14 waste categories from companies using an online tool. SmartStart collects information accurate to 5% (estimation made by individual making assessment of skips). SmartAudit collects exact amounts (dimensions, number, etc) of each type of waste using a hand-held data logger on site for accuracy. Benchmarking study will collect survey information from a number of participating companies and collate it to produce performance indicators that can be used by the industry.
Availability	Information collected by clients will usually only be made available to them. Other information, including Benchmarking study when published, will be available at www.smartwaste.co.uk.
Links (i.e. uses data from other sources)	

No statistical assessment is available for this source at present

Organisation	**CLG**
Data source/title	**Survey of arisings and use of construction, demolition and excavation waste as aggregate in England in 2003**
Topic	**Waste**
Info available	Provides estimates for the use and disposal of CDE Waste: "The estimate for production of recycled aggregate has risen from 36.47 million tonnes in 2001 to 39.60 million tonnes in 2003. Although the difference between the central estimates for 2001 and 2003 is not statistically significant, additional information provided by respondents points strongly towards the growth being real. Unlike 2001, little or none of the growth is attributed to a better 'detection rate' of mobile crushers, though the population of recycling crushers continues to grow".
Update frequency	Surveys appear to be carried out every 2 years for ODPM (now CLG).
Methodology	Surveys carried out by Capita Symonds Ltd in association with WRC plc. The estimates given above are derived from surveys carried out during the first half of 2004. Survey forms were sent to: • 851 owners and potential hirers of crushers and screens; • the operators of 1,339 licensed landfills; and • 413 operators of 569 Paragraph 9&19 registered exempt sites, including a structured sample chosen from a much larger population of operators of small sites. By the time the survey process ended and analysis began in earnest (in July 2004) useful information had been received from: • 360 owners and hirers of recycling crushers, representing 42% of the operators and 49% of the population of recycling crushers; • the operators of 586 licensed landfills, representing 44% of all landfills and 50% of the landfills in the three most important categories; and • 157 operators of registered exempt sites, representing 38% of the operators and 37% of the registered exempt sites. These response rates were notably higher than the overall result achieved in 2001 and slightly higher than the response rates achieved for the selected target groups used for that survey.
Availability	Data taken from ODPM 'Survey of arisings and use of construction, demolition and excavation waste as aggregate in England in 2003'. (Previous versions (every 2 years) also available). Downloadable as PDF from CLG website: www.communities.gov.uk.
Links (i.e. uses data from other sources)	Defra summarise data from this report and from previous versions. Available via Defra website: www.defra.gov.uk.

Organisation	CLG	
Data source/title	Survey of arisings and use of construction, demolition and excavation waste as aggregate in England in 2003	
Objectivity	C&D waste data comes from Department for Communities and Local Government (DCLG) biennial survey on C&D waste arisings.	3

Clarity of methodology	Methods used are clearly stated.	3
Timeliness	DCLG data indicated as biennial yet most recent data is 2003.	2
Scope	Covers England comprising regional breakdown for 2003 and summary for 1999 and 2001.	3
Gap-filling/estimation	Some estimation is used.	2
Statistical clarity	Statistical method is clearly detailed in the Annex. The survey was conducted using a stratified random sampling. The methods of calculating confidence intervals are clearly explained.	3
Response rate	Overall response rate of 33%.	
Comments	This is a comprehensive study with good statistical methodology.	
	Score:	16

Organisation	CLG
Data source/title	**Survey of Arisings and Use Secondary Materials as Aggregate in England and Wales in 2001**
Topic	**Waste**
Info available	Provides up-to-date information on the availability and utilisation of a range of secondary materials that are used, or have potential to be used as alternatives to primary aggregates. This information was required in order to monitor and review MPG6 and to monitor the effects of the aggregates levy. Uses information previously collected by Symonds, including information for Wales. Construction and demolition waste (C&D) and road planings were excluded from the brief, having been the subject of separate surveys.
Update frequency	Survey carried out in 1999 (unpublished) and again in 2001, suggesting it may be updated every 2 years. However, no evidence of a more recent update of this particular survey. (Associated surveys on Primary aggregates and C&D waste seem to be carried out every 4 years and 2 years respectively.)
Methodology	Survey carried out by Symonds Group by interview. Contacts were made by email and/or telephone and the data gathered in the previous study was used as a starting point for updating to 2001. For several materials there are only two or three companies involved as suppliers, and issues of commercial sensitivity arise. This particularly applied to power station ashes. Were this data gathering exercise to have been carried out under the rules applied to primary aggregates (AM93, AM97 etc), very few figures would be reported at all. This is why we have reported figures as approximate fractions of millions of tonnes and not more precise thousands of tonnes (where such precision exists). Because of particular sensitivities with incinerator bottom ash, we approached the Environment Agency for information rather than individual companies.
Availability	Data taken from ODPM 'Survey of arisings and use of secondary materials as aggregate in England in 2001'. Info available from CLG website at: www.communities.gov.uk.
Links (i.e. uses data from other sources)	Apparently uses data collected from Environment Agency.

Organisation	CLG	
Data source/title	Survey of Arisings and Use Secondary Materials as Aggregate in England and Wales in 2001	
Objectivity	Conducted by the Symonds group and behalf of the ODPM/CLG.	3
Clarity of methodology	Some methodology is laid out in the summary pages on the website.	2
Timeliness	First carried out in 1999 (unpublished) and again in 2001, suggesting it may be updated every 2 years. A recommendation in the 'Future surveys' section of the website is for collecting data on a regional basis, through the Regional Aggregate Working Parties (RAWPs) for publication in their annual reports. It goes on to suggest only if this fails to keep track of secondary aggregate arisings and use is a further round of national data gathering and collation likely to prove necessary.	2

Scope	Secondary materials used as aggregates in England and Wales.	3
Gap-filling/estimation	Some estimation used.	2
Statistical clarity	No statistical method stated, though since study seems to have collected all relevant data, statistics may not have been necessary.	3
Response rate	None stated.	
	Score:	15

Organisation	**Defra**
Data source/title	**Packaging recovery and recycling**
Topic	**Waste**
Info available	Packaging recovery and recycling in tonnes and as a percentage of the total waste packaging for 1998–2004. (Can therefore calculate total waste from given figures.) Broken down by type, i.e. aluminium, glass, plastic, steel, paper, wood.
Update frequency	Published March 2006 with data up to 2004. Data appears to be available every year so assume it is updated annually.
Methodology	Under the Producer Responsibilities Obligations (Packaging Waste) Regulation 1997 (as amended) packaging data is required to be submitted to the relevant agencies. This data forms the basis of the UK reporting to the European Commission. Only obligated organisations submit data. Defra then estimates a total to include the non-obligated volumes arising. Obligated organisations are those with a turnover in excess of £2 million per annum who handle over 50 tonnes of packaging in a year. National Packaging Waste Database used to submit data under the Producer Responsibility Obligations (Packaging Waste) Regulations. Quarterly data provided, which is updated weekly to take account of late returns. (Available at www.npwd.org.uk.)
Availability	Available from defra website: www.defra.gov.uk. Excel file to download giving packaging recovery and recycling rates for 1998–2004.
Links (i.e. uses data from other sources)	NPWD. Data used by letsrecycle.com.

Organisation	Defra	
Data source/title	Packaging recovery and recycling	
Objectivity	Defra data, so assume sufficiently objective.	3
Clarity of methodology	National Packaging Waste Database used to submit data under the Producer Responsibility Obligations (Packaging Waste) Regulations. Little detail is provided.	2
Timeliness	Published March 2006 with data up to 2004. Data appears to be available every year so assume it is updated annually.	3
Scope	Concerns packaging waste only. Although this may include C&D packaging waste, the data is not explicit, only providing overall figures rather than sector breakdown. Covers whole of UK.	2
Gap-filling/estimation	Estimations in the data are stated: 1998 and 1999 are estimates. no data for 1998, estimates for 1999, data included in materials for 2000–2002.	3
Statistical clarity	No statistics described.	
Response rate	None indicated.	
Comments	More information about data collection methods might be useful.	
	Score:	13

Organisation	**Environment Agency**
Data source/title	**Commercial and Industrial Waste Surveys**
Topic	**Waste**
Info available	Information provided about mineral wastes, sludges, animal and plant waste, discarded equipment, metallic and non-metallic waste, chemicals and mixed wastes. Data split into industrial and commercial and compared by survey year. Disposal and recovery methods provided, by landfill, land recovery, reuse and recycled, thermal and other treatments, as well as broken down by region. Information also broken down by business sector, e.g. mineral products, metals, machinery and equipment, etc.
Update frequency	Surveys reported in 1999 and 2003, suggesting the data may be updated every 4 years.
Methodology	EA calculated the initial sample distribution using data from 1998–9 to achieve the desired standard error. ONS provided a stratified random sample based on the sector groups and company size-bands specified, as well as information on the national population of companies in the specified groups. The 2002–3 survey used the same basic statistical approach as that in 1998–9 to maintain consistency. The earlier data were used to target this survey more effectively to achieve the desired level of precision in the estimates for the minimum effort. Data was collected from 4,500 companies in England and 2,100 companies in Wales, most of which were visited. Around two percent of the interviews (mainly smaller companies) were conducted by telephone. The surveys in England and Wales were separate but consistent with each other.
Availability	Web tool available on Environment Agency website to view data. www.environment-agency.gov.uk. Reports detailing methodology also available on website – 'The commercial and industrial waste production survey, draft final report, September 2005'. (Search under C&I survey.) www.environment-agency.gov.uk/subjects/waste and www.environment-agency.gov.uk/subjects/waste. Summary info available on EA website at: www.environment-agency.gov.uk/ subjects/waste.
Links (i.e. uses data from other sources)	ONS, Defra summarised and reported results on their website: www.defra.gov.uk.

Organisation	Environment Agency	
Data source/title	Commercial and Industrial Waste Surveys	
Objectivity	Two surveys were conducted of C&I waste production. The first was the National Waste Production Survey (1999); the second was conducted by the Environment Agency (2002/3). Only have information on 2002/3 EA survey. The fact that the survey was conducted by the Environment Agency satisfies objectivity criteria.	3

Clarity of methodology	Data was collected from 4,500 companies in England and 2,100 companies in Wales, most of which were visited. Around two percent of the interviews (mainly smaller companies) were conducted by telephone. The surveys in England and Wales were separate but consistent with each other. According to report the 2002–3 survey used the same basic statistical approach as that in 1998–9 to maintain consistency.	3
Timeliness	Surveys reported in 1999 and 2003, suggesting the data may be updated every 4 years. Presumably another is therefore due this year though there is no indication that this is the case.	1
Scope	2002/3 survey covers England and Wales covering some sectors – principally agriculture, construction and waste management. No data was obtained for two large industries, iron and steel work and coal-fired power stations, which produce mainly mineral wastes and residues and so used data from the 1998–9 survey to aid comparisons.	2
Gap-filling/estimation	Estimation was used, to generate estimates of the types and quantities of waste produced by sector group and region/sub-region, methods of disposal and recovery used. A detailed methodology is provided.	2
Statistical clarity	The statistical approach is set out in detail in the draft report including the use of stratified sampling.	3
Response rate	75% (2002/3 survey).	
Comments	It would have been useful to know of future planned surveys given the most recent is 2002/3.	
	Score:	14

Organisation	**WRAP**
Data source/title	**Recycling plasterboard waste from refurbishment sites (report)**
Topic	**Waste**
Info available	• Additional waste management costs incurred by recovering plasterboard waste from refurbishment sites using the 'mosquito fleet system' varied between £59.47 and £90.63 (lower than cost of disposing in high-sulfate monocell landfill at ~£113 per tonne). Costs of recovery using a skip system varied from £70.43 to £125.10. • Study showed that around 86% of plasterboard recovered was strip-out waste, 6% was fit-out waste and 7% was mixed strip-out and fit-out waste. • Waste partitioning board at strip out represented easiest and largest volume of material to recover, contributing around 74% of the total recovered bored.
Update frequency	Report from a single study. No indication that it will be repeated. Published November 2006. Study carried out Jan–Sep 2006.
Methodology	Study carried out on the recovery of plasterboard from refurbishment projects to assess whether it was economically viable to recover/recycle plasterboard. Report prepared by Oakdene Hollins for WRAP. Project team included Overbury – main refurb contractor, RC Interiors (RCI) – strip-out contractors, Hinkcroft – waste transfer station operator, New West Gypsum Recycling (NWGR), Plasterboard Recycling UK (PBR-UK), Gypsum Recycling UK (GRUK) – plasterboard recyclers. Figures generated from their own study and cost modelling.
Availability	Report available from WRAP website. www.wrap.org.uk. ISBN: 1-84405-295-8.
Links (i.e. uses data from other sources)	

Organisation	WRAP	
Data source/title	Recycling plasterboard waste from refurbishment sites (report)	
Objectivity	WRAP is a not-for-profit company created in 2000 as part of the UK government's waste strategies.	3
Clarity of methodology	The report concerns a 17-week trial whose primary objective of the study was to demonstrate the practical and economic viability of plasterboard waste recovery from the commercial refurbishment sector. Methodology is described, though use of statistics in the study is limited. However, since study is concerned more with recycling issues rather than data use of statistics may not be necessary/relevant.	3
Timeliness	Appears to be first study of its kind in UK since plasterboard recovery has up to now not been widely utilised. No indication of future research planned.	2
Scope	Concerns data from 13 developments around London though conclusions imply more broader application.	2

Gap-filling/estimation	Some use of estimation is stated e.g. “Overall it was estimated that less than 2% of waste plasterboard was not recovered from the trial sites”.	2
Statistical clarity	Some use of regression analysis, though beyond that no evidence of use of statistical methods. As stated above, this may not be necessary for a study of this kind.	3
Response rate	None indicated.	
	Score:	15

Energy, emissions and transport

Organisation	**DFT** – Department for Transport
Data source/title	**Transport Statistics Bulletin – 2005**
Topic	**Energy, Emissions, Transport**
Info available	**Regional transport statistics** (DfT) • Purpose and mode of travel based by region • DfT continuing survey of road goods transport… • Freight transported by road, per region, from 1994–2004 • Foreign and domestic sea freight, 2002–2004 • Road freight statistics related to construction products • Goods lifted by commodity (tonnes per year, 1995–2005) • Goods moved by commodity (tonne kilometres, 1995–2005) • Average length of haul by commodity (1995–2005) • Empty running % and vehicle miles by business type (2005)
Update frequency	**Regional transport statistics** (DfT) 1999–2001 data. No suggestion of regular updates.
Methodology	The sample of vehicles used in the survey is selected from vehicle records maintained by the Driver and Vehicle Licensing Agency (DVLA). Prior to 2004, the sample was selected weekly from a sampling frame of vehicles that was updated weekly. From 2004, for practical and administrative reasons, the weekly sample has been selected from a sampling frame that is updated quarterly. The CSRGT samples goods vehicles and collects data about one week's activity from each vehicle in the sample. The sample is spread evenly over the year so that the sample is 'self weighting' in respect of seasonal effects, holidays etc. The vehicles covered by the survey are goods vehicles over 3.5 tonnes gross vehicle weight.
Availability	Department for Transport website: www.dft.gov.uk.
Links (i.e. uses data from other sources)	Dept for Transport, Defra.

Organisation	DfT	
Data source/title	Transport Statistics Bulletin – 2005	
Objectivity	The study is conducted by DfT following the National Statistics Code of Practice.	3
Clarity of methodology	Methodology is explained for different sections. Definitions and data sources are given. Details for all calculations are given. Various methodologies have been used because of the wide range of indicators included in the study.	3
Timeliness	Updated regularly. However, different data sources are updated with different frequencies.	2
Scope	Includes information for the UK broken down by type of transport, trends and comparison with average EU data.	3

Gap-filling/estimation	Various estimates are used. Explanation is accordingly provided.	2
Statistical clarity	Since 2004 the weekly sample has been selected from a quarterly sample rather than a weekly sample, which compromises statistical accuracy. Methods and weighting systems have changed over time, which makes some data incomparable or inconsistent.	2
Response rate	Not given.	
	Score:	15

Secondary sources

Construction materials

Organisation	**AMA Research**
Data source/title	**Assessing Construction Waste – Evidence gaps for construction products, Materials and Waste data (Report for BRE – on CD-ROM)**
Topic	**Construction materials**
Info available	Overall volumes and values of construction products used on the UK, by product sector. Extensive detail given on their sources of information for the study. Some of the derived data is based on AMA's own Market Research work, involving interviews with stakeholders etc.
Update frequency	Published in March 2007. No indication if it will be updated.
Methodology	Gives details of the sources used to derive their data and the methodology used (in report).
Availability	Uncertain of availability – may be published as part of BRE report.
Links (i.e. uses data from other sources)	

No statistical assessment available for this source at present

Organisation	**Biffaward –** www.massbalance.org
Data source/title	**Mass balance report for the UK**
Topic	**Construction materials**
Info available	www.massbalance.org is the Mass Balance UK project website. Thirty projects were run for Biffaward in various product sectors and regions and reports for each can be obtained through this website. Biffaward has also issued an overall project summary report for the Government, which is also available from the site, The Mass Balance Movement: The definitive reference for resource flows within the UK environmental economy. This document summarises the investigations carried out, including that for the construction industry.
Update frequency	Report published in February 2006. No indication that this is updated regularly. (Landfill Tax Credit Scheme funding no longer available for new projects or updates.)
Methodology	Carried out for Biffaward project (and Forum for the Future) by various organisations.
Availability	Report available to download from www.massbalance.org.
Links (i.e. uses data from other sources)	Biffaward, HMCE, ONS PRODCOM.

Organisation	Biffaward	
Data source/title	Mass balance report for the UK	
Objectivity	Carried out for Biffaward project (and Forum for the Future) by various organisations.	3
Clarity of methodology	Thirty projects were run for Biffaward in various product sectors and regions. Individual reports and an overall summary report are available at www.massbalance.org. Because different methodologies and datasets were used for each project, it isn't possible to assess the overall methodology of the programme.	n/a
Timeliness	The full report was published in 2006 but there is no indication as to when it will be updated. It looks unlikely that the work will be updated because the LTCS support for this type of work has ended.	1
Scope	The Biffaward Programme report provides an overview of the programme which covers over 60 project areas. The aim of the programme was to provide accessible, well-researched information about the flows of different resources through the UK economy.	3
Gap-filling/estimation	Differs from project to project.	n/a
Statistical clarity	Differs from project to project.	n/a
Response rate	Differs from project to project.	
Comments	Assessing the overall report is not particularly relevant because each project was run by a different organisation using a different methodology and data. It is more useful to assess each project individually, as is done below for the construction sector.	
	Score:	7

Organisation	**City Limits (London)**
Data source/title	**City Limits – A Resource Flow and Ecological Footprint analysis of Greater London (2000)**
Topic	**Construction materials**
Info available	Material/resource flows in London, based on production, import and export data from PRODCOM. 27.8 million tonnes of materials were used by the construction sector, 26 million tonnes of waste was generated, of which 15 million tonnes was from the construction and demolition sector.
Update frequency	Published September 2002. No suggestion of regular updates. Appears to use PRODCOM 2000 data.
Methodology	Part of Biffaward Programme on Sustainable Resource Use – Material flows. Based on PRODCOM data – Volumes of manufacture, export and import. 'Construction Materials' only considers those related to rock, gravel, sand, bricks, concrete, etc. Does not include timber or metal-products under construction products, as these are covered separately by PRODCOM. PRODCOM data not available on a regional level so a 'proxy' had to be used. Proxies are estimates derived from an existing data set using a statistical modifier. The proxy for Construction Materials was 6.4%, based on London's Inert Waste as a percentage of the UK's inert waste.
Availability	Report and Excel raw data spreadsheets available from city limits website: www.citylimitslondon.com. Need to give details to download files.
Links (i.e. uses data from other sources)	Biffaward.

Organisation	City Limits	
Data source/title	City Limits – A Resource Flow and Ecological Footprint analysis of Greater London (2000)	
Objectivity	The construction data was obtained from the ONS PRODCOM 2000. The analysis of the data was conducted by a number of impartial organisations .	3
Clarity of methodology	Based on PRODCOM data – Volumes of manufacture, export and import. 'Construction Materials' only considers those related to rock, gravel, sand, bricks, concrete, etc. Does not include timber or metal products under construction products, as these are covered separately by PRODCOM.	3
Timeliness	Published in September 2002 but does not suggest it will be updated regularly. Seems to use PRODCOM 2000 data	1
Scope	Material/resource flows in London based on production, import, and export data from PRODCOM. Not specifically a construction materials report, so limited information is provided.	2
Gap-filling/estimation	Because PRODCOM data is not available at a regional level, proxies must be used. The proxies are estimates derived from an existing data set using a statistical modifier.	1

Statistical clarity	The estimation method for scaling down to the regional level is explained well. The data is taken from PRODCOM which is a well-established, statistically robust source of information.	3
Response rate	Not applicable.	
Comments	This study focusses on a very specific area (namely London) and is not intended to have a wide scope or to present a wide range of statistical data on construction. It provides an interesting report but if it is not updated regularly it will probably not be relevant for many years.	
	Score:	13

Organisation	**Forum for the Future**
Data source/title	**Mass Balance report based on Biffaward Projects**
Topic	**Construction materials**
Info available	Original studies carried out by Biffaward. Forum for the Future has written an overall report, giving details of a series of mass balances for certain sectors, including construction. Gives info on material inputs and outputs from the construction industry, e.g. quarry products used, wastes produced, materials recycled etc. (relative to 1998). Report indicates that there are data gaps that need to be filled and that the data should be regularly collected to be used as a useful policy tool.
Update frequency	Report published in approx 2002/early 2003. No indication that this is updated regularly.
Methodology	The mass balance for this study was constructed from existing data with data gaps estimated from manipulation of official data sources and reports. No primary data were collected. Data were collected from various sources, the principal sources being **PRODCOM** statistics for production and trade, **NETCen** for emissions, and **Environment Agency** and Scottish Executive surveys for wastes.
Availability	Report available to download as PDF from the Forum for the Future website, www.forumforthefuture.org.uk.
Links (i.e. uses data from other sources)	Biffaward, ONS PRODCOM, NETCen (now part of AEA Technology), EA.

Organisation	Forum for the Future	
Data source/title	Mass Balance report based on Biffaward Projects	
Objectivity	Original studies were carried out by Biffaward. Forum for the Future have written an overall report.	3
Clarity of methodology	No primary data were collected. Data were collected from various sources, the principal sources being PRODCOM statistics for production and trade, NETCen for emissions, and Environment Agency and Scottish Executive surveys for wastes. As a result there are a variety of methodologies used.	2
Timeliness	Report published in approx 2002/early 2003. No indication that this is updated regularly.	1
Scope	Gives info on material inputs and outputs from the construction industry, e.g. quarry products used, wastes produced, materials recycled etc. (relative to 1998). Report indicates that there are data gaps that need to be filled and that the data should be regularly collected to be used as a useful policy tool.	2
Gap-filling/estimation	There are a number of data gaps (through no fault of the study). Some estimates are used though it is clearly indicated when this is the case.	2

Statistical clarity	It is difficult to assess the statistical robustness of the study because it contains data from a variety of sources. However, the report does stress the need to improve the statistical information base on material resources.	1
Response rate	Not applicable.	
Comments	This is certainly an interesting report which highlights the importance of having a regularly updated mass balance database in the UK. Although it is not a standard dataset as such, it does highlight the importance of developing a framework to assess material flows in the UK.	
	Score:	11

Organisation	**Timber Recycling Information Centre (TRIC)**
Data source/title	**Mass balance report – use of timber in construction**
Topic	**Construction materials**
Info available	This document reports specifically on an investigation into the UK mass balance for wood used in construction. It forms part of a series of similar studies looking at other sectors within the UK timber industry, including furniture, pulp and pulp logs, joinery and packaging. Gives information on material inputs and outputs relating to timber.
Update frequency	Report published in June 2005. No indication that this is updated regularly.
Methodology	Carried out for Biffaward project (overall for Forum for the Future database) by TRADA. Uses data from HMCE, PRODCOM, web-based research, consultation with appropriate trade bodies and industry contacts, sectoral market surveys.
Availability	Report available to download from Timber Recycling Information Centre website: www.recycle-it.org.
Links (i.e. uses data from other sources)	Biffaward, TRADA, (Mass Balance.org), HMCE, ONS, PRODCOM.

Organisation	Timber Recycling Information Centre	
Data source/title	Mass balance report – use of timber in construction	
Objectivity	This study was carried out for the Biffaward project. Most of the data used is from PRODCOM. Where supplementary data was needed, it was conducted in consultation with the Federation of Master Builders and the Construction Industry Research Association.	3
Clarity of methodology	The methodology is very clearly described in the report. Data is taken primarily from PRODCOM (ONS) and supplemented with market research to fill in any gaps in data provided by ONS.	3
Timeliness	Published in 2005 but does not indicate that it will be updated regularly. The latest ONS data used in the report is from 2002.	1
Scope	The document reports on an investigation into the UK mass balance for wood used in construction and includes data to calculate material use by value, volume, etc. It is one of a series of reports looking at sectors within the UK timber industry (furniture, pulp, joinery, etc.)	3
Gap-filling/estimation	PRODCOM data is estimated based on the results of an extensive survey conducted by ONS. Market research is also based on survey results. Therefore the information in this report is all estimated based on a number of surveys.	1
Statistical clarity	They are clear about the level of uncertainty that results from studies of this kind and even report the standard error of the ONS data. Sample sizes are reported for the market survey (which was a representative sample of industry), although there was a low response rate.	3
Response rate	ONS data generally has a response rate of 90% or more. The market survey response rate was low.	

Comments	This report would be more useful if it was updated more regularly to account for changes in the timber industry. Also, it would be useful to know what the response rate was for the market survey. (It is stated that it is low but it isn't clear how low it is.) This problem could potentially be improved by not relying on postal surveys which generally have a low response rate.	
	Score:	14

Organisation	**Viridis**
Data source/title	**Construction Industry Mass Balance: Resource use, wastes and emissions**
Topic	**Construction materials**
Info available	Info on material resource use, energy, waste, emissions to air for the UK construction industry (based on 1998 data). Report presents an overview of resource flows through the industry, future trends and influences and makes recommendations as to how resource productivity can be improved.
Update frequency	Report first published in 2002 and revised in 2003. No indication that this is updated regularly. (Landfill Tax Credit Scheme funding no longer available for new projects or updates.)
Methodology	Carried out for Biffaward project (and Forum for the Future) by Viridis. Uses data from PRODCOM, UK Minerals Yearbook (Natural Environment Research Council), EA, consultation with appropriate trade bodies and industry contacts. Construction statistics from DETR (2000) and ODPM.
Availability	Report available to download from www.massbalance.org.
Links (i.e. uses data from other sources)	Biffaward, ONS Prodcom, EA, DETR, ODPM.

Organisation	Viridis	
Data source/title	Construction Industry Mass Balance: Resource use, wastes and emissions	
Objectivity	The project was funded by Biffaward; Viridis was responsible for the project and work was undertaken by a team comprising Viridis and CIRIA. The project team was assisted by a Construction Industry Advisory Group made up of representatives of government and stakeholders drawn from the construction industry.	3
Clarity of methodology	The methodology is clearly set out in the report, and the terms used are clearly defined.	3
Timeliness	The report was revised and published in 2003. Due to the end of the programme, it is unlikely to be revised.	1
Scope	The study includes wide-ranging UK data on construction materials, emissions from the construction sector, waste arising from construction, etc. There are a large number of materials covered in the study including plastic, wood, quarry products, steel, ceramic, cement, etc.	3
Gap-filling/estimation	Data had to be converted from alternative units into mass data for the purposes of the study. Also, because some regional data was not available, it was necessary to estimate resource flows in these areas using proxy data (employment data, population stats, etc.) Where this is done, the estimations made are clearly labelled.	2

Statistical clarity	Although the data used comes from a variety of sources (DTI, ONS, and the Environment Agency), all the sources provide high-quality, statistically robust data. The data quality section identifies a number of problems with the data – although this does affect the statistical quality of this study, it does highlight the need for the construction industry to develop and implement a transparent system for monitoring resource use, which is a valuable conclusion.	2
Response rate	Not reported because a variety of data was used.	
Comments	It would be useful to update the study, though it appears that won't be happening due to an end of the funding programme.	
	Score:	14

Organisation	**BRE**
Data source/title	**Environmental profiles/life cycle assessment** (Published in Green Guide to Specification**)**
Topic	**Construction materials**
Info available	EP/LCA looks at the environmental impact of materials or a product over their anticipated lifecycle. BRE undertake studies to model the impact of construction products, from the extraction of raw materials through to their eventual disposal. An overall 'score' is provided in Ecopoints – the lower the Ecopoints the less environmental impact a product has. This information is generated specifically for clients and also generically for product groups. This information is then published in the Green Guide, providing guidance for specifiers, designers and their clients on the relative environmental impacts of over 250 elemental specifications for roofs, walls, floors etc. The Guide gives an overall A to C rating for various materials depending on their 'environmental profile' and shows their relative impact on various environmental issues such as climate change, ozone depletion, minerals extraction, etc. Also gives an indicative cost per unit area.
Update frequency	The most recent version of the Green Guide was published in 2002. Due to be updated 2008. In the forthcoming electronic edition, individual company profiles will be shown alongside the generic profiles.
Methodology	Environmental rankings based on Life Cycle Assessment studies of environmental impacts according to BRE's Environmental Profile methodology. Looks at impacts associated with extraction, processing, manufacture, installation, maintenance and disposal of products. Utilises data on: • energy from extraction and processing of raw material inputs • product manufacturing and processing energy • emissions associated with energy usage • packaging associated with product • transport emissions of raw materials and products • anticipated lifespan of product • recyclability and end of life impacts.
Availability	Available from BRE www.brebookshop.com. EP methodology available at: http://cig.bre.co.uk/envprofiles.
Links (i.e. uses data from other sources)	

No statistical assessment available for this source at present.

Organisation	**Construction Products Association (CPA)**
Data source/title	**Construction Industry Forecasts**
Topic	**Construction materials**
Info available	Gives detailed analysis of likely future activity in the different construction sectors. Three-year forecast produced from this analysis for the whole construction industry.
Update frequency	Published twice a year.
Methodology	Data used for charts etc mainly from DTI – construction output, housing stock, orders vs output by sector (housing, industry, commercial, public building and infrastructure). Mortgage information from Bank of England.
Availability	Documents can be ordered from the CPA (download file and email or post request). www.constprod.org.uk/pages/pubs.asp. (Single £200, Annual £300)
Links (i.e. uses data from other sources)	DTI, Bank of England.

Organisation	Construction Products Association	
Data source/title	Construction Products forecasts etc.	
Objectivity	The Construction Products Association acts as a single, influential voice for the manufacturers and suppliers of construction products. Its aim is to build a growing, profitable and sustainable future for the construction products industry.	2
Clarity of methodology	No information provided.	
Timeliness	Updated weekly, monthly or quarterly depending on the dataset.	3
Scope	Information is available (by purchase) on construction industry forecasts, construction market trends, and construction industry trade surveys.	3
Gap-filling/estimation	No information provided.	
Statistical clarity	No information provided.	
Response rate	No information provided,	
Comments	The CPA's publications look like they contain quite a lot of regularly updated information, but it is difficult to assess them without having a subscription. Documents do not have much information on methodology, estimation, etc.	
	Score:	8

Organisation	**Construction Products Association (CPA)**
Data source/title	**Construction Market Trends**
Topic	**Construction materials**
Info available	Monthly summary of main economic and statistical indicators relevant to the construction industry. Gives details of key statistics on the UK economy and the Construction industry and when they are next updated.
Update frequency	Monthly.
Methodology	Uses DTI data on construction output, new orders, infrastructure output and orders. Uses QPA data on sales of aggregate etc. Survey of CPA members on order levels, stock levels, business confidence and capacity. BMF (Builders Merchants Federation) provide data on product sales. Also Bank of England, Halifax, Nationwide and ODPM figures on mortgages, house prices etc.
Availability	Documents can be ordered from the CPA (download file and email or post request). www.constprod.org.uk/pages/pubs.asp. (Single £20, Annual £175.)
Links (i.e. uses data from other sources)	DTI, QPA, BMF, Bank of England, Banks, ODPM.

Organisation	Construction Products Association	
Data source/title	Construction Products forecasts etc.	
Objectivity	The Construction Products Association acts as a single, influential voice for the manufacturers and suppliers of construction products. Its aim is to build a growing, profitable and sustainable future for the construction products industry.	2
Clarity of methodology	No information provided.	
Timeliness	Updated weekly, monthly or quarterly depending on the dataset.	3
Scope	Information is available (by purchase) on construction industry forecasts, construction market trends, and construction industry trade surveys.	3
Gap-filling/estimation	No information provided.	
Statistical clarity	No information provided.	
Response rate	No information provided.	
Comments	The CPA's publications look like they contain quite a lot of regularly updated information, but it is difficult to assess them without having a subscription. Documents do not have much information on methodology, estimation, etc.	
	Score:	8

Organisation	**Construction Products Association (CPA)**
Data source/title	**Construction Industry Trade Surveys**
Topic	**Construction materials**
Info available	Quarterly reports on the state of trade in the industry. Joint report by the Construction Confederation and the CPA. Includes: • construction products sales volumes • building contractors output • contractors' sector output • predictions and anticipated output • import and export of products • civil engineering activity provided by CECA (Civil Engineering Contractors Association). • construction material prices from DTI.
Update frequency	Quarterly.
Methodology	**Construction Confederation Survey:** Survey of an industry-representative sample of construction companies of varying sizes. Has ~5000 members that are responsible for over 75% of construction work in Great Britain. Results are weighted according to the turnover of each participating firm. Provides info on current and future workloads. Uses a 'balance' indicator – those that answered positively less those that answered negatively to give an overall view. **CPA Survey:** Survey also uses 'balance' of respondents. No weighting is given to allow for the extend of the change or the size of the firms involved. Covers companies with a total UK turnover in excess of £15 billion and employing over 180,000.
Availability	Documents can be ordered from the CPA (download file and email or post request). www.constprod.org.uk/pages/pubs.asp. (Single £50, Annual £150.)
Links (i.e. uses data from other sources)	Construction Confederation, CECA, DTI.

Organisation	Construction Products Association	
Data source/title	Construction Products forecasts etc.	
Objectivity	The Construction Products Association acts as a single, influential voice for the manufacturers and suppliers of construction products. Its aim is to build a growing, profitable and sustainable future for the construction products industry.	2
Clarity of methodology	No information provided.	
Timeliness	Updated weekly, monthly or quarterly depending on the dataset.	3
Scope	Information is available (by purchase) on construction industry forecasts, construction market trends, and construction industry trade surveys.	3
Gap-filling/estimation	No information provided.	

Statistical clarity	No information provided.	
Response rate	No information provided.	
Comments	The CPA's publications look like they contain quite a lot of regularly updated information, but it is difficult to assess them without having a subscription. Documents do not have much information on methodology, estimation, etc.	
	Score:	8

Organisation	**DTI (now called BERR)**
Data source/title	**Construction Statistics Annual – Building Materials**
Topic	**Construction materials**
Information available	Document has several sections. Chapter specifically on Building Materials (Ch 14). This publication includes information on deliveries and sales of selected building materials, including bricks, cement and concrete blocks, sand and gravel, crushed rock, slate, concrete roofing tiles and ready-mixed concrete. Also includes annual price indices.
Update frequency	2005 Edition, gives data for 2004. Updated annually.
Methodology	Appears to use data from DTI Monthly Stats on Building Materials.
Availability	Available for download from DTI website at: www.dti.gov.uk/files/file16430.pdf.
Links (i.e. uses data from other sources)	

Organisation	DTI	
Data source/title	Construction Statistics Annual – Building Materials	
Objectivity	Much of the data is taken from Construction Market Intelligence, DTI. Each table includes the name of the source, but they would benefit from providing further details on the sources.	2
Clarity of methodology	Appendix 3 gives a clearly defined list of terms used, categories used, and regions that are included in the report.	3
Timeliness	Updated annually.	3
Scope	Provides annual or quarterly data on construction material use by value, volume, etc. for the UK; regions are clearly defined in the Appendix.	3
Gap-filling/estimation	Some of the data is estimated – estimated output of small firms, estimated number of construction professionals, some estimated cost data.	2
Statistical clarity	Where calculations have been done, the equations used are provided in Appendix 3. The sources used for this report seem to rely on first-hand statistics and adhere to statistical principles. Because data on different materials are collected from different sources, the timescales used vary (some are monthly statistics, some are quarterly, etc.). For this reason care should be taken when comparing the statistics from different areas.	2
Response rate	None indicated.	
Comments	Need more information on the data sources.	
	Score:	15

Organisation	**DTI (now called BERR)**
Data source/title	**Monthly statistics on Building Materials and Components** (Data collected by ONS)
Topic	**Construction materials**
Information available	This publication includes the latest detailed information on selected building materials and contains monthly data on price indices, bricks, cement and concrete blocks; and quarterly data on sand and gravel, slate, concrete roofing tiles and ready-mixed concrete. In addition, there is annual and quarterly information on the value of total overseas trade in building materials by imports and exports for the United Kingdom.
Update frequency	Data published monthly, updated monthly or quarterly.
Methodology	Apart from price indices and overseas trade, the information is in volume terms for production, deliveries and stocks. It is collected from the producers of each building material. Information for calculating the price indices is collected by the Office for National Statistics and those relating to building materials are reproduced in this publication. Overseas trade is collected by HM Revenue and Customs from which that relating to the values for building materials is extracted. Generated for UK, GB, Scotland and Wales.
Availability	Previous 12 months available to download free as PDFs from DTI website (www.dti.gov.uk). Available on subscription at £123 per year or £16 per issue; Monthly statement of bricks, blocks and cement, extracted from the main report and issued a month later, but cheaper to subscribe to at £40 per year or £6 per issue.
Links (i.e. uses data from other sources)	ONS produces data for DTI. Data listed on ONS website but refers to DTI to download data.

Organisation	DTI	
Data source/title	Monthly statistics on Building Materials and Components	
Objectivity	Data collected by ONS.	3
Clarity of methodology	No information is given about the methodology. Because the data is collected by the ONS it is probably safe to assume that the methodology is conducted in a statistically sound way. The only information given is that the data is collected from producers of each building material.	2
Timeliness	Data are updated on either a monthly or quarterly basis.	3
Scope	Monthly data is provided on prices of construction material, sales of different products, imports, exports, etc. The whole of the UK is covered in this report.	3
Gap-filling/estimation	Some import/export data are estimated.	2
Statistical clarity	National Statistics are produced to high professional standards set out in the National Statistics Code of Practice. They do state on a few occasions that the numbers presented are based on only a small sample and are therefore indicative only.	3

Response rate	None indicated.	
Comments	They should be more specific about the methodology used to compile this data.	
	Score:	16

Organisation	**Forestry Commission**
Data source/title	**Forestry Statistics 2006 – Imports, exports and apparent consumption of wood products**
Topic	**Construction materials**
Info available	Shows apparent consumption of sawnwood, woodbased panels, paper and paperboard (including as packaging).
Update frequency	Updated annually with latest data from the previous year, i.e. 2006 release gives data up to 2005. Data included back to 1996.
Methodology	Info on imports and exports comes from overseas trade statistics compiled by HM Revenue and Customs. "Apparent consumption is the amount of timber (measured as raw wood material equivalent underbark) used as wood and wood products by people and industries in the United Kingdom. It is calculated as total United Kingdom production plus imports, minus exports. This total does not include any allowance for recycled wood and paper that is recovered for use within the United Kingdom, but is reduced by the substantial net exports of recovered paper... Apparent consumption also differs from actual consumption by the extent of changes in the level of stocks. It is not practical to collect information on actual consumption."
Availability	Interactive web version of 2006 forestry statistics available at www.forestry.gov.uk.
Links (i.e. uses data from other sources)	HMCE

Organisation	Forestry Commission	
Data source/title	Forestry Statistics 2006 – Imports, exports, and apparent consumption of wood products	
Objectivity	Information on imports and exports comes from the Overseas Trade Statistics compiled by HM Revenue and Customs. The two sources are: surveys of European Union (EU) internal trade (Intrastat); and customs data for trade with non-EU countries.	3
Clarity of methodology	Assuming the methodology is the same as that used for the UK Timber Statistics, the overall methodology is clearly defined.	3
Timeliness	Updated annually with latest data from the previous year, i.e. 2006 release gives data up to 2005.	3
Scope	Data included on price and quantities of imports/exports of timber, countries that export to the UK. Geographic scope covers all of the United Kingdom; some data also given on imports/exports at the international level. Covers 1996–2005 which more detail for 2001–2005.	3
Gap-filling/estimation	Some estimates are used.	2
Statistical clarity	This dataset has been compiled with attention to the National Statistics Code of Practice and presents complete, unbiased information on the UK timber industry.	3

Response rate	None indicated.	
Comments	They are more specific about the methodology used to compile this data.	
	Score:	17

Organisation	**Forestry Commission**
Data source/title	**UK Timber Statistics 2006**
Topic	**Construction materials**
Info available	**Section D** gives data on wood-based panel products, e.g. OSB, chipboard, cement bonded particle board and MDF or other fibreboards. Shows that 40% of input was from sawmill products in 2005, 35% from UK roundwood and 24% from recycled wood fibre. (Figures given from 1996-2005.) Recycled wood fibre recovered from both pre- and post-consumer wood waste.
Update frequency	Updated annually with latest data from the previous year, i.e. 2006 release gives data up to 2005. Data included back to 1996. Pre-2004 data did not include statistics for Northern Ireland and was titled 'British timber statistics'.
Methodology	Estimates of wood production and consumption by wood processing industries using British timber, for the latest calendar and previous 10 years. Based on surveys of harvesting companies, sawmills and fencing manufacturers; other enquiries to the wood processing industries and data from Forestry Commission administrative systems. Includes results from sawmill survey every second year. The statistics for the wood-based panel products sector in the UK have been supplied by the Wood Panel Industries Federation (WPIF).
Availability	Available from forestry commission website: www.forestry.gov.uk/statistics. Interactive web version of 2006 forestry statistics also available.
Links (i.e. uses data from other sources)	Wood Panel Industries Federation.

Organisation	Forestry Commission	
Data source/title	UK Timber Statistics 2006	
Objectivity	Official statistics bearing the National Statistics logo are produced to high professional standards set out in the National Statistics Code of Practice. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from political interference.	3
Clarity of methodology	Terms, conversion methods and overall methodology are clearly defined.	3
Timeliness	Updated annually with latest data from the previous year, i.e. 2006 release gives data up to 2005.	3
Scope	Contains statistics on harvesting of roundwood timber from forests and woodlands in the UK, and deliveries of roundwood to sawmills and other primary wood processing industries. It also includes some statistics on production of wood products. Geographic scope covers all of the United Kingdom – Scotland, England, Wales and Northern Ireland. Covers 1996–2005, with more detail for 2001–2005.	3
Gap-filling/estimation	Includes some estimated data – clearly labelled when this is the case.	2

Statistical clarity	This dataset has been compiled with attention to the National Statistics Code of Practice and presents complete, unbiased information on the UK timber industry.	3
Response rate	None indicated.	
	Score:	17

Organisation	**Iron and Steel Statistics Bureau**
Data source/title	**Main UK markets for steel**
Topic	**Construction materials**
Info available	**UK iron and steel industry – Annual Statistics** Thirty-four detailed statistical tables relating to the UK Iron and Steel Industry with historical comparisons and detailed trade information. Available about nine months after the year end. Most of the tables contain information collected from the UK steel producing companies, although UK trade tables are based on HM Revenue & Customs data, and some information is obtained from other government or industry association sources (£195). **World steel statistics – Monthly** An analysis of trends in steel trade, updated monthly, displaying in graphical and tabular format, trade data for 38 countries as well as some production data. Annual subscription: £960.
Update frequency	Some stats updated monthly or annually. Last market sector analysis carried out in 2000. Currently compiling an update for 2005.
Methodology	ISSB offers a wide range of publications and custom reports covering UK, European and Global trade in steel and raw materials. The company maintains a comprehensive database of international trade in steel and steelmaking products. Info from UK steel producing companies and UK trade tables based on HMRC data. Some info from other government or industry association sources.
Availability	Available on ISSB website at: www.issb.co.uk. Publications available for purchase via website.
Links (i.e. uses data from other sources)	Provides data to the UK Steel Association.

No statistical assessment available for this source at present.

Organisation	**Leading Edge**
Data source/title	**Construction Sectors and Building Materials Forecast 2006-2010**
Topic	**Construction materials**
Info available	Analysis of economy and its impacts on the main construction sectors and key building materials markets of the future (to 2010): • orders and outputs in the construction industry • predictions of housebuilding starts and completions • volumes of building products sales including aggregates, cement and concrete, bricks and blocks, roof tiles. "Our computer generated 5-year model of the construction industry, covers the seven main construction sectors and the key heavyside building materials markets. This includes aggregates (crushed rock, sand & gravel), blocks (dense, lightweight & aerated), bricks (facings, engineering & commons), cement, readymixed concrete, along with clay and concrete roof tiles. It gives a comprehensive background to what's happening in the industry and the reasons behind them. It also gives the assumptions we have made in case these change."
Update frequency	Published in June 2006. Appears to be updated annually.
Methodology	Only gives assumptions on which data forecasts are based. Appear to use a lot of other data sources, such as ONS, OECD, DTI, CLG.
Availability	www.lead-edge.co.uk. Available through website – cost £75 + VAT.
Links (i.e. uses data from other sources)	ONS, OECD, DTI, CLG.

No statistical assessment available for this source at present.

Organisation	**AMA Research**
Data source/title	**Market Research Reports for the Construction Industry**
Topic	**Construction materials**
Info available	Reports provide info on market size and volume, sectors/industry structure, supplier market shares, distribution channels, imports/exports and future prospects and trends. Mainly UK market data, though some reports specifically for Ireland. Comprehensive series of subjects covered.
Update frequency	Most reports appear to be regularly updated, e.g. every 2 years, if there is sufficient demand.
Methodology	Data is generated from their own research, trade estimates, ONS, census info, HMRC, DTI, ODPM/CLG, Housing Corporation, DfE, Business Monitor.
Availability	Reports can be purchased by multiple clients (average between ~£600–£800) (www.amaresearch.co.uk).
Links (i.e. uses data from other sources)	ONS, Census info, HM Revenue & Customs, DTI, ODPM/CLG, Housing Corporation, DfE, Business Monitor.

Organisation	AMA Research	
Data source/title	Market Research Reports for the Construction Industry	
Objectivity	AMA is an independent, privately run organisation which relies on a range of robust data sources for their reports.	3
Clarity of methodology	Data is generated from their own research, trade estimates, ONS, census info, HMRC, DTI, ODPM/CLG, Housing Corporation, DfE, Business Monitor. Each report appears to clearly define the terms and the sources of data used.	2
Timeliness	The data is updated regularly (at least every two years).	3
Scope	Reports provide info on market size and volume, sectors/industry structure, supplier market shares, distribution channels, imports/exports and future prospects and trends. Mainly UK market data, though some reports specifically for Ireland. Reports on specific, detailed subjects are generally available under numerous headings, including: commercial glazing, door and window fabricators market, commercial and industrial doors market, roofing and insulation, bricks & blocks, etc.	3
Gap-filling/estimation	Many factors are estimated at the UK level based on survey data.	1
Statistical clarity	No information is provided at all on sample size, scaling up methodology, or robustness of the data.	1
Response rate	Not given.	
Comments	AMA provides a very wide range of reports giving detailed information on many aspects of the construction industry. From a statistical point of view, it would be useful for them to provide an indication of sample size, sampling methodology, etc.	
	Score:	13

Organisation	**BSRIA**
Data source/title	**Market Research Reports for Construction Industry**
Topic	**Construction materials**
Info available	Market reports (UK, EU, World, USA, Middle East, China, etc – not all available in all categories – usually World or EU) can be purchased from BSRIA by multiple clients. BSRIA can also be commissioned to undertake a specific study by a private client but they may not choose to regularly update and re-produce it. BSRIA provides info on market size and volume, sectors/industry structure, supplier market shares, distribution channels, imports/exports and future prospects and trends. Regularly updated reports on air climate, compressors, refrigeration, heating, renewables, bathroom products, contract maintenance, cabling. Also series of one-off reports.
Update frequency	Usually update common reports every year. Can be commissioned to undertake a specific study, but may not regularly reproduce or update it.
Methodology	
Availability	Reports can be ordered online and purchased by multiple clients (~£600–£6,000) (www.bsria.co.uk).
Links (i.e. uses data from other sources)	

No statistical assessment available for this source at present, but likely to be similar to other Market Research sources.

Organisation	**Construction Markets**
Data source/title	**Market Research Reports for the Construction Industry**
Topic	**Construction materials**
Info available	Information on market size and product types, building sectors, regional use, total by use in new work, extensions and refurbishment, market shares of manufacturers and suppliers, home improvement and imports, trend analysis and forecasts for building sectors, product types and specific reasons for change, attitudinal research and customer satisfaction studies. A range of frequently updated reports are generally available for: roof cladding, wall cladding, building insulation, flat roofs, bricks, internal partitioning. additional reports of unknown update frequency include, suspended ceilings, structural floors, building boards, plasterboard, structural steel, concrete blocks, curtain walling, rainscreens, foundations, doors, acoustics, fire protection.
Update frequency	Some reports updated annually, some every 2 years, others probably only updated if a single client demands it.
Methodology	In 1998 Construction Markets developed a computer-based forecasting model. The methodology relies on highly researched and accurate estimates of when specific types of buildings will be completed. It also analyses the sequence in which a wide range of products will actually be used on site. In effect it takes new orders and translates them into product and building output estimates. This forecasting model provides an accurate assessment of the likely development of building sectors and specific product areas. The model is used as a base point for all the construction markets research. These forecasts can be prepared on a general or client specific basis. Contact Dominic Collins, dominic@construction-markets.co.uk
Availability	No indication of price. Some available to multiple clients, others produced for single clients (www.construction-markets.co.uk).
Links (i.e. uses data from other sources)	

No statistical assessment available for this source at present, but likely to be similar to other Market Research sources.

Organisation	**MBD Market and Business Development**
Data source/title	**Market Research Reports on the Construction Industry**
Topic	**Construction materials**
Info available	Produce a wide range of multi-client reports on construction related issues. Reports include info on market size and trends, segmentation, industry and demand structure, supply – imports/exports and future forecasts.
Update frequency	Reports updated quarterly.
Methodology	Enquiries about reports: Publications@mbdltd.co.uk.
Availability	Reports can be purchased singly (£550), as an annual subscription (£660), all reports together as a Building Product Series (£7150) or as individual chapters. (www.mbdltd.co.uk).
Links (i.e. uses data from other sources)	ONS, Census info, HM Revenue & Customs, DTI, ODPM/CLG, Housing Corporation, DfE, Business Monitor.

Organisation	MBD Market & Business Development	
Data source/title	Market Research Reports on the Construction Industry	
Objectivity	Reports are researched and written by MBD's in-house specialist business-to-business consultants.	3
Clarity of methodology	Data is taken from a variety of sources including the ONS, Census info, HM Revenue & Customs, DTI, ODPM/CLG, Housing Corporation, DfE, Business Monitor. Research is based on both an analysis of official information and on original, trade research, providing both a quantitative and qualitative view of the market.	2
Timeliness	Updated quarterly.	3
Scope	Produces a range of multi-client reports on construction related issues. Reports include info on market size and trends, segmentation, industry and demand structure, supply – imports/exports and future forecasts. Reports available on the following subjects including adhesives, air conditioning equipment, plastics, steel, construction (for each European country), etc.	3
Gap-filling/estimation	Estimates are used often. The method of estimation is not explained.	1
Statistical clarity	MBD identifies areas of uncertainty and has conducted additional research where the official data were questionable.	2
Response rate	Not given.	
Comments	These reports include information on a wide range of areas. It would be useful to have more information on the data and the methods used for scaling up survey data.	
	Score:	14

Organisation	**Palmer Market Research**
Data source/title	**Market Research Reports for the Construction Industry**
Topic	**Construction materials**
Info available	Generally, reports provide info on market size and structure, sectors, regional markets, past trends and future forecasts. Most updated annually. A range of reports are available, including glazed products, floor covering, coatings.
Update frequency	Most updated annually. Some bi- or tri-ennially.
Methodology	Each multi-client report will typically involve many hundreds of structured personal interviews with companies through the supply chain, specifiers and professional clients, backed up by extensive desk research programmes. Contact info@PalmerMarketResearch.co.uk.
Availability	Reports can be purchased by multiple clients (~£1,800–£7,000) (www.palmermarketresearch.co.uk).
Links (i.e. uses data from other sources)	

No statistical assessment available for this source at present, but likely to be similar to other Market Research sources.

Organisation	**MTP – Market Transformation Programme**
Data source/title	**Insulation, Windows, Plasterboard, Roofing, Flooring, Lighting, Comfort cooling, MMC systems**
Topic	**Construction materials**
Info available	Currently, the only reports that have been officially released are the plasterboard and windows reports. Three Briefing Notes are generated, covering the product's market, the waste issues and the relevant legislation and policy drivers. There is also a Policy Document that summarises the findings of these three Briefing Notes. Although the data sources used will necessarily vary to some extent from product to product, the overall information generated is generally similar. The windows and plasterboard reports can therefore be considered largely representative of other construction product reports.
Update frequency	Once Briefing Notes produced, updated frequently on website.
Methodology	Gathers data from various sources, including many Defra/DTI/ONS sources about building rates and product sales etc (PRODCOM). (Prodcom data not particularly helpful for Insulation MTP). Also uses Market Research reports, such as from AMA research, BSRIA, etc and direct consultation with industry stakeholders.
Availability	Available on MTP website once published. Windows and Plasterboard reports: www.mtprog.com.
Links (i.e. uses data from other sources)	

Organisation	Market Transformation Programme	
Data source/title	Insulation, Windows, Plasterboard, Roofing, Flooring, Lighting, Comfort cooling, MMC systems	
Objectivity	MTP is managed by Defra's Environment, Business and Consumers Division through a consortium of contractors. The lead contractor is AEA Technology Environment. The programme relies on a high level of objectivity.	3
Clarity of methodology	Data derived from a variety of sources (e.g. gypsum manufacturers, Environment Agency) and all sources appear to be referenced.	3
Timeliness	Updated annually.	3
Scope	Comprehensive in terms of area and data sources.	3
Gap-filling/estimation	Some estimation is used. For example according to briefing note BNPB1: An estimation of plasterboard consumption and waste generation from new build in the future, up to the year 2020, has been made. These figures have been calculated based on data from several sources and a number of assumptions.	2
Statistical clarity	Detail of estimation and gap-filling is provided.	2
Response rate	No information provided.	

Comments	Policy Briefs and Briefing Notes are only included for plasterboard and window waste. The Briefing Notes are linked to the Policy Briefs and present the underlying evidence base of information, such as further explanations, definitions, assumptions and important background information (BNPB1-3 & BNWS01-3). This analysis is based on the Briefing Notes.	
	Score:	16

Organisation	**ONS** – National Statistics Office
Data source/title	**Environmental Accounts – Material flows**
Topic	**Construction materials**
Info available	Environmental Accounts provide information on the environmental impact of UK economic activity (in particular on the emissions of pollutants) and on the importance of natural resources to the economy. Material flow accounts record the total mass of natural resources and products that are used by the economy, either directly in the production and distribution of products and services, or indirectly through the movement of materials which are displaced in order for production to take place.
Update frequency	Updated every spring and autumn (latest data published 2006, based on 2004 info, so 2 year delay).
Methodology	Mineral extraction data taken from the BGS UK Minerals Yearbook. Information on mass of imports and exports taken from info compiled by HM Revenue & Customs. Factors applied to give estimates of the amounts of unused material moved for each tonne of used material have been taken from research carried out by the Wuppertal Institute on behalf of Defra and by the University of Manchester on behalf of ONS. The methodology used to compile the account is also based upon the Wuppertal Institute's research. www.defra.gov.uk/news/2002/020617a.htm. *UK Material Flows Review*: www.statistics.gov.uk/statbaseProduct.asp?vlnk=3698.
Availability	Available via ONS website: www.statistics.gov.uk. Environmental Accounts are published in the spring and autumn of each year. The availability of various data sources used in Environmental Accounts varies from topic to topic. It is therefore not possible to update all sections of the publication for every edition.
Links (i.e. uses data from other sources)	FAO, BGS, HMRC, Defra

Organisation	Office of National Statistics	
Data source/title	Environmental Accounts – Material flows	
Objectivity	The ONS is an unbiased organisation and is known for providing high-quality data.	3
Clarity of methodology	The material flow accounts are updated to take on latest data from the British Geological Society, HM Revenue & Customs and the Food and Agriculture Organisation (FAO). Other than that, little information is provided on the methodology.	1
Timeliness	Updated twice a year (2 year delay).	3
Scope	Material flow accounts record the total mass of natural resources and products that are used by the economy, either directly in the production and distribution of products and services, or indirectly through the movement of materials which are displaced in order for production to take place.	3
Gap-filling/estimation	Some estimation used.	1

Statistical clarity	The review of the material flows expresses concerns about the completeness, timeliness, international comparability, policy relevance and accuracy of the estimates.	2
Response rate	None given.	
Comments	The information needed for this analysis was not included in a single document. In addition to the updated reports available online, a review of the material flows is also available. The actual reports only provide limited information on the methodology – further information would be useful.	
	Score:	13

Organisation	**WRAP**
Data source/title	**Opportunities to use recycled materials in building – Reference guide**
Topic	**Construction materials**
Info available	Information about the recycled content of mainstream products, including green guide summary rating and typical service life. Appears to include similar tables to 'Choosing Construction Products' report mentioned above, but must use data from earlier version of report.
Update frequency	February 2005 (2nd Edition).
Methodology	(Uses BRE Green Guide data). Prepared by BRE and the CPA, with cost data prepared by Davis Langdon Management Consulting.
Availability	Report available from WRAP website. www.wrap.org.uk. ISBN: 1-84405-130-4.
Links (i.e. uses data from other sources)	BRE – Green Guide

Organisation	WRAP	
Data source/title	Opportunities to use recycled materials in buildings – Reference guide	
Objectivity	Prepared by BRE and the CPA, with cost data prepared by Davis Langdon Management Consulting. This guide does not attempt to provide unbiased data but instead is trying to identify cost-competitive products with a high recycled content.	2
Clarity of methodology	Clearly define the way they are using the term "recycled content" and consistently apply the same evaluation technique across all data. Methodology is clearly presented and follows industry standards. Any assumptions made are clearly stated.	3
Timeliness	Feb 2005 (2nd edition); Cost data from end 2004; Not clear whether there will be a third or later editions.	2
Scope	Data covers ceilings, doors, external walls, floor coverings, insulation, internal walls, landscape, roofing, and floors. Focus only on products that have above-average recycled content, are cost competitive (specifically excludes 100 high-cost options), and meet industry norms for availability and technical performance. Guide focuses on materials and products commonly used in UK.	2
Gap-filling/estimation	Estimation is used to give estimates for recycled content. This estimation is based on industry consultation and expert judgment – they even state that data should be used for guidance rather than for definitive analysis.	1

Statistical clarity	This study was not conducted as formal statistical sample. This does not represent a sample of all products but rather a guide of ways to switch products with a high recycled content. It is unclear what the sample size is. The data collection process is also not transparent at all because the consultation was confidential and no details are provided.	1
Response rate	None indicated.	
Comments	This guide presents a clear methodology and good information for using products with a high recycled content. However, because it contains cost data it would be more useful if it was updated regularly (there may be plans to update it but that information is not given in the guide). The process of data collection could also be made more transparent – information could be given on the sample size, the level of uncertainty in the estimated values and so forth.	
	Score:	11

Organisation	**WRAP**
Data source/title	**Opportunities to use recycled materials in housebuilding – Reference guide**
Topic	**Construction materials**
Info available	Information about the recycled content of mainstream products, including Green Guide summary rating and typical service life. Appears to include similar tables to 'Choosing Construction Products' and 'Opportunities to use Recycled Materials in buildings' reports mentioned previously.
Update frequency	September 2004.
Methodology	(Uses BRE Green Guide data) Prepared by BRE and the CPA, with cost data prepared by Davis Langdon Management Consulting.
Availability	Report available from WRAP website. www.wrap.org.uk. ISBN: 1-84405-131-5.
Links (i.e. uses data from other sources)	BRE – Green Guide.

Report similar in principle to WRAP's 'Opportunities to use recycled materials in building – Reference guide' above. Statistical assessment assumed to be very similar.

Organisation	**WRAP**
Data source/title	**Choosing construction products: Recycled content of mainstream products**
Topic	**Construction materials**
Info available	Information about the recycled content of mainstream products.
Update frequency	Report published in June 2006. Update of an earlier report carried out in 2004. Report states that they intend to publish further editions (but no timescales).
Methodology	Carried out by AMA research for WRAP. Interviewed suppliers to provide data on recycled content etc. Product pricing established with help of Jewson. "Methodology involved a combination of desk research, identifying existing data from available sources, company web sites, reports, etc and a primary research programme of telephone interviews with building product and material suppliers, manufacturers, housebuilders, distributors, wholesalers, merchants and quantity surveyors."
Availability	Report available from WRAP website. www.wrap.org.uk. ISBN: 1-84405-232-X, Issue no 2. www.wrap.org.uk.
Links (i.e. uses data from other sources)	

Organisation	WRAP	
Data source/title	Choosing construction products – Recycled content of mainstream products	
Objectivity	Study conducted by AMA Research and covers a good mix of companies. AMA used the services of several major contractors and building products suppliers, including Jewson, to check that the higher recycled content product/material alternatives were available without any penalties in terms of price or availability.	3
Clarity of methodology	The terms used in the analysis are clearly defined and the methodology well explained. The publication only includes data verified by suppliers.	3
Timeliness	Report published June 2006 – states that updates will be published but no timescales given.	2
Scope	The products included in the dataset are available nationally. Details are provided for over 100 products/brands. A far higher number were assessed in order to establish appropriate products for inclusion. They show only representative products/materials from each sector, rather than a comprehensive listing of all products available in all sectors.	2
Gap-filling/estimation	The recycled content has been estimated for a few products, but this estimation is clearly labelled.	2

Statistical clarity	This study was not conducted as formal statistical sample. This does not represent a sample of all products but rather a sample of products with a high recycled content. Therefore, it could be used to find, say a brand of concrete with a high recycled content but could not be used to calculate the average recycled content of all brands of concrete.	1
Response rate	Over a hundred products were included in this study.	
Comments	As this study provides price data, information on the recycled content of products, etc., it will cease to be useful if it is not updated regularly.	
	Score:	13

Organisation	**QPA – Quarry Products Association**
Data source/title	**The aggregates industry at a glance (booklet published 2006)**
Topic	**Construction materials**
Info available	UK quarries and marine aggregate dredgers produce 210 million tonnes of aggregate a year. 67 million tonnes a year come from recycled and secondary aggregates – 24% of the total market.
Update frequency	No indication of update frequency.
Methodology	No sources given for data, so may be info they gather from their members or stats from other sources, such as DTI/ONS.
Availability	Info available on QPA website and downloadable as leaflet at: www.qpa.org/pro_fact01.htm.
Links (i.e. uses data from other sources)	

Organisation	QPA – Quarry Products Association	
Data source/title	The aggregates industry at a glance (booklet published 2006)	
Objectivity	This leaflet has been compiled by the QPA as an overview of the industry – it is not intended as a full statistical report. No information is given about the sources of information.	1
Clarity of methodology	No sources of information are provided.	1
Timeliness	No indication of update frequency.	1
Scope	Key information on the quarrying industry is provided at the UK level.	2
Gap-filling/estimation	Not specified.	
Statistical clarity	This is more like a promotional leaflet than a statistical report. There is no indication of sample size, when the data was collected, what the sources of information are.	1
Response rate	None indicated.	
Comments	This leaflet gives a good overview of the industry but couldn't really be used in any statistical analysis.	
	Score:	6

Building rates and availability

Organisation	**Build Offsite – DTI (by Loughborough Uni)**
Data source/title	**The value of the UK market for offsite**
Topic	**Building rates and availability**
Info available	The value of the offsite market in the UK in 2004 was **£2.2 billionn**.This figure can be split up into the different levels of offsite: • Level 4 – Modular and portable buildings – £0.64 billion • Level 3 – Volumetric pre-assembly – £0.29 billion • Level 2 – Non-volumetric pre-assembly – £1.28 billion • Total offsite = £2.2 billion All values for 2004, actual or predicted from reference. The total value of the UK construction sector in 2004 was **£106.8 billion**. The proportion of the UK offsite market when compared with the total value of the UK construction sector, including new build, refurbishment and repair, and civil engineering, is **2.1%**.
Update frequency	Appears to be a one-off report, published in 2005. Based on 2004 data.
Methodology	This survey has taken a number of recent market survey reports, analysed them to establish the extent and nature of their coverage and supplemented their data by other means where possible. Details of this method are provided in the Appendix. (Includes BSRIA, AMA, MSI, Mintel.)
Availability	Available from Build Offsite website: www.buildoffsite.com/pubs_downs.htm.
Links (i.e. uses data from other sources)	Market research organisations, such as BSRIA and AMA Research.

Organisation	Build Offsite – DTI/Loughborough Uni	
Data source/title	The value of the UK market for offsite	
Objectivity	Conducted by two individuals from Loughborough University and sponsored by the DTI. One assumes high standard of objectivity.	3
Clarity of methodology	This survey has taken a number of recent market survey reports, analysed them to establish the extent and nature of their coverage, and supplemented their data by other means where possible. The report details the methodology and sources of data in an Appendix. They actually give justification for the methodology and compare it to other possible methodologies which is useful.	3
Timeliness	Appears to be a one-off report, published in about 2005 but based on 2004 data.	1
Scope	The report covers UK and is specific to the assessing the value of the UK market.	2
Gap-filling/estimation	According to the report: “Several approximations and assumptions have had to be made in order to derive these figures”.	1

Statistical clarity	The report details the sources used and notes that approximations have been used.	2
Response rate	None indicated.	
Comments	It would be useful if they provided more details about the approximations and assumptions used in the analysis. It should be noted that the quality of this report is quite high, although the score is a bit low because the report is very specific and not updated regularly.	
	Score:	12

Organisation	**CLG**
Data source/title	**Housing statistics – Housebuilding**
Topic	**Building rates and availability**
Info available	Data on the number of new permanent dwellings started and completed for England and its Regions. Data also available for the UK and Great Britain by aggregating data from Scottish Executive, National Assembly for Wales and Department of Social Development Northern Ireland. Data are split between tenure and type.
Update frequency	National figures for both starts and completions are now released in a quarterly statistical release. (Monthly updates prior to April 2003.)
Methodology	Quarterly data by tenure – info from local authorities completing P2 Quarterly return and from NHBC monthly returns. This data also contributes to the Housing Statistics Annual. P2Q returns provide new build dwelling starts or completions recorded by LA building control departments. NHBC data gives estimates of activity by each LA area. Figures from each LA are aggregated to give regional and national figures. Email: housebuilding.statistics@communities.gsi.gov.uk.
Availability	Available via CLG website: www.communities.gov.uk.
Links (i.e. uses data from other sources)	ONS collect data, but available through CLG?, from local authorities and NHBC.

Organisation	CLG	
Data source/title	Housing Statistics – Housebuilding	
Objectivity	Variety of sources have been used, combined and compared to achieve objectivity.	3
Clarity of methodology	The definitions used in the analysis are clearly defined. Methodology is well identified. Where different methodologies have been used this is clearly explained.	3
Timeliness	Updated quarterly.	3
Scope	Information is provided at the regional and national scale. Data are split between tenure type.	3
Gap-filling/estimation	Some estimates on starts and completion have been used. Where that was the case information about the reason and methodology used has been provided.	2
Statistical clarity	The study has been produced to high professional standards set out in the National Statistics Code of Practice.	3
Response rate	No information given.	
Comments	The study uses variety of data sources which are adjusted so that comparisons can be made.	
	Score:	17

Organisation	CLG
Data source/title	**Housing statistics – Household & Population estimates and projections**
Topic	**Building rates and availability**
Info available	Household projections are produced by CLG and are linked to the latest ONS Sub National Population Projections. The projections are trend based and indicate the number of additional households that would form if recent demographic trends continue. www.communities.gov.uk.
Update frequency	Irregular. Latest predictions from 2003–2026 published in 2006. Previous versions were from 2002 (published in 2004) and 1996 (published in 1999). Possibly due to be updated again in 2007.
Methodology	This data is derived from various sources, including ONS Sub National Population Projections, Census info, Labour Force Survey (LFS) 2002–2004 (ONS), adjustment advice from peer review group, government Actuary's Department (GAD) projections. More elaborate detail on methodology used give at on CLG website at: www.communities.gov.uk.
Availability	Available via CLG website: www.communities.gov.uk.
Links (i.e. uses data from other sources)	ONS collect data, but available through CLG. ONS, Census, GAD.

Organisation	CLG	
Data source/title	Households & Population estimates and projections	
Objectivity	A variety of sources have been used, including ONS, Census, Labour Force Survey (LFS) 2002–2004 (ONS), Adjustment advice from peer review group and Government Actuary's Department (GAD) projections. It could be assumed that the study has been conducted an unbiased and transparent way.	3
Clarity of methodology	Methodology is clearly explained. A six stage process has been followed for selecting, assessing and weighting data. Terminology and data sources are identified.	3
Timeliness	Intend to update every two years, however previously updated every 4–5 years. Date of next report is not given.	2
Scope	The study presents data and projections only for England.	2
Gap-filling/estimation	The study uses estimations, trends and projections.	2
Statistical clarity	Statistical clarity is maintained as far as possible. It should be taken into account that data is collected from a number of sources which makes it difficult to trace what statistical standards have been followed.	2
Response rate	Not given.	
	Score:	14

Organisation	**CLG**
Data source/title	**Planning statistics – Previously developed Brownfield land, 2005**
Topic	**Building rates and availability**
Info available	The aim is to provide a consistent assessment of previously-developed vacant and derelict land and other developed land that may be available for redevelopment. "In 2005 local planning authorities estimated that 27,600 hectares (44 per cent) was potentially suitable for housing and could provide 981,000 dwellings. There may be barriers to development for some of this housing capacity: not all of it can be expected to come into use in the immediate future. Rather more of the land suitable for housing was currently in use (14,600 hectares) than vacant or derelict (13,000 hectares)."
Update frequency	Reports from 2002, 2003 and most recent 2005. Data collected annually from LAs and will normally be published around August of the following year.
Methodology	Project undertaken by CLG and English Partnerships. Data collected by local authorities (as an annual return) using the NLUD-PDL Data Entry Management Tool. The estimates in this Statistical Release are compiled from information on individual sites supplied by local authorities in England. They give a snapshot for 31 March 2005. Authorities were asked to update information on the sites provided previously and to provide details of new sites that had come into scope since their previous return. Out of the 362 local planning authorities, including National Parks, in England, 306 (85%) provided information. See www.nlud.org.uk for further info.
Availability	Available via CLG website: www.communities.gov.uk. Report: 'Previously developed land that may be available for development: England 2005. Results from the National Land Use Database of previously developed land, August 2006.'
Links (i.e. uses data from other sources)	NLUD, English Partnerships.

Organisation	CLG	
Data source/title	Planning Statistics	
Objectivity	Considering that the report uses results from the National Land Use Database it could be assumed that the information is correct and unbiased.	3
Clarity of methodology	No information is given about the methodology. Because data is collected through the National Land Use Database it could be assumed that the methodology used is statistically sound.	2
Timeliness	Updated annually.	3
Scope	Geographic scope covers England. Detailed information on regions is presented.	2
Gap-filling/estimation	Some estimates used. Information about the methodology and percentage of final estimates is given in an Annex.	2

Statistical clarity	Accuracy of presented data could be assumed because of the source. Methods of calculations are explained and where assumptions have been made information about them is given. Information about definitions and data sources is provided.	3
Response rate	85% of the local planning authorities provided information.	
	Score:	15

Organisation	**CLG**
Data source/title	**Housing statistics – Stock (including vacants, conversions and demolitions**
Topic	**Building rates and availability**
Info available	Provides tables on stock, including by tenure, region, year built, % owner occupied, RSL stock, LA stock and on vacants by LA and RSL, by region. A few charts also available, based on the data.
Update frequency	Main stock data (by tenure, UK and GB) appears to be updated every 2 years. Last update May 2005, next update due Aug 2007. However, other tables appear to be updated more frequently.
Methodology	Uses data from following sources: • Housing Flows Reconciliation (HFR) – provides stock figures at the start and end of the financial year • From local authorities from the Housing Strategy Statistical Appendix (HSSA) return • RSLs from Housing Corporation • (Residual total stock gives Private Sector) • Census – info on owner occupied and rented properties • Labour Force Survey (LFS) (ONS) • Council tax records – for info on vacants • English House Condition Survey (EHCS) – vacants and market value • Survey of English Housing (SEH) – age of stock distribution
Availability	Available via CLG website: www.communities.gov.uk.
Links (i.e. uses data from other sources)	ONS collect data, but available through CLG. (Listed by ONS on website.) Local Authorities, RSLs/Housing Corp, Census.

Organisation	CLG	
Data source/title	Housing Statistics – Stock (including vacants, conversions and demolitions	
Objectivity	Data collected from different sources, including from ONS, local authorities, council tax records, etc. Reference to each source is provided.	3
Clarity of methodology	The methodology is clearly explained in a separate section. Details for all calculations are given. The questionnaire, which was forwarded to relevant bodies for completion is attached to the report.	3
Timeliness	The data is updated regularly, although different data are updated at different frequencies without synchronisation.	2
Scope	Data is provided on district, regional and national scales. Very wide range of data is represented.	3
Gap-filling/estimation	The methodology used for estimates is provided. Estimates are primarily based on census data, except where specific sectors have required other method.	2

Statistical clarity	Data has been presented in a way which is consistent with previous years. Various reports and data sources have been included in order to provide an unbiased picture. A few charts are also available.	3
Response rate	No information given.	
Comments	Very broad study, reference to a wide range of data sources.	
	Score:	16

Organisation	**DTI (now called BERR)**
Data source/title	**Construction Statistics Annual – New Orders**
Topic	**Building rates and availability**
Info available	Document has several sections. Chapter specifically on Building Materials (Ch 1). Annual estimates of construction new orders, with some back data. Contains construction new orders broken down by sector, region and type of work. (Construction Statistics Annual from DTI, along with the Housing Statistics from DCLG, replace the Housing and Construction Statistics Annual Volume from 2000 onwards.)
Update frequency	2005 Edition gives data for 2004. Updated annually.
Methodology	Uses info from New Orders section on DTI website. "The Construction Market Intelligence branch (CMI) is responsible for the collection of construction data and statistics in DTI and has been operating since 1958 when it began to collect information from companies connected with the construction industry. We now collect data through means of regular sampling across a wide range of firms, large and small."
Availability	Available to download from DTI website at: www.dti.gov.uk/files/file16430.pdf.
Links (i.e. uses data from other sources)	

Organisation	DTI	
Data source/title	Construction Statistics Annual – New Orders	
Objectivity	The majority of the data are from government sources; some data are from other sources but must be trusted by DTI to have been used in this report.	3
Clarity of methodology	This report presents a collection of statistics which are currently available on the construction industry so the methodologies are not reported. Score of 1 given because methodologies are not in the report, although methodologies used to collect the data may have been fine.	1
Timeliness	2005 Edition gives data for 2004. Updated annually.	3
Scope	A collection of statistics currently available on the construction industry so very wide range of data presented.	3
Gap-filling/estimation	Some estimated data.	2
Statistical clarity	This data set is a collection of statistics from other sources. Although the methodologies are not given in the report, it is a DTI report with wide ranging data so we assume the data is of a high statistical quality.	2
Response rate	No information on sample size or response rate for each of the studies presented.	
Comments	Difficult to score because this is a collection of statistics presenting the results of surveys without the methodologies.	
	Score:	14

Organisation	**OECD** – Organization for Economic Co-operation and Development
Data source/title	**OECD in figures 2005 – Construction, Dwelling starts**
Topic	**Building Rates and Availability**
Info available	Dwelling starts for World countries. Live tables. Some give monthly figures (latest October 2005), while others only show quarterly data. Also give annual data for previous years (currently back to 2003).
Update frequency	Monthly data provided for some countries, but suspect that data source is actually updated quarterly, as shows 2–3 months previous info. (Must be related to frequency of data updates in each country.)
Methodology	Source: OECD Main Economic Indicators (updated continuously) – Access full time series of dwellings started (seasonally adjusted) as short-term indicators of Construction activity for available OECD countries. "The OECD collects statistics needed for the analysis of economic and social developments by its in-house analysts, committees, working parties, and member country governments from statistical agencies and other institutions of its member countries. The OECD shares the experience gained by members in compiling reliable and comparable statistics with non-member countries." UK sources include Bank of England, CLG, ONS, Skillsbase Labour Market Information database, HMRC (may not use all for all stats).
Availability	Available via OECD website statistics portal, Industry and Services Section: www.oecd.org.
Links (i.e. uses data from other sources)	Bank of England, CLG, ONS, Skillsbase Labour Market Information database, HMCE (may not use all for all stats).

Organisation	OECD	
Data source/title	OECD in figures – Construction, Dwelling starts	
Objectivity	Study conducted by the OECD based on data provided by different countries. Considering the sources of information it could be concluded that high statistical standards have been followed.	3
Clarity of methodology	Methodology is generally explained. However, considering the number and the variety of the data sources it is difficult to assess the clarity and transparency of the different methodologies.	2
Timeliness	Updated regularly, live tables, however information for different countries is updated with different frequencies.	3
Scope	OECD countries.	3
Gap-filling/estimation	No information given.	
Statistical clarity	Data have been provided from variety of sources using different methodologies. Official statistical data sources have been used implies a high statistical standard.	2
Response rate	Not given.	
	Score:	13

Organisation	**ONS** (Info available through DCLG & DTI)
Data source/title	**Completion of new dwellings**
Topic	**Building rates and availability**
Info available	The number of new permanent dwellings in thousands built between the years 1992/93 and 2002/03 by 'Private enterprise (includes private landlords and owner occupiers)', 'Registered social landlords' and 'Local Authorities (Housing Executive in Northern Ireland)'.
Update frequency	Says that the resource is updated annually, but latest update shown to be March 2005. More up to date, equivalent information appears to be available from CLG and DTI.
Methodology	No methodology given as such, though sources shown to be ODPM, National Assembly for Wales, Scottish Executive, Department for Social Development Northern Ireland.
Availability	Available via ONS website: www.statistics.gov.uk.
Links (i.e. uses data from other sources)	DCLG/ODPM, DTI, WAG, Scot Exec, Dept Social Development NI.

Organisation	ONS	
Data source/title	Completion of New Dwellings	
Objectivity	The work was conducted by ONS using data collected from variety of government sources.	3
Clarity of methodology	The methodology is not reported, however it could be traced through ONS.	2
Timeliness	Updated annually, although the information is displayed only in ten-year increments.	2
Scope	Covers new dwellings for the whole United Kingdom.	3
Gap-filling/estimation	Not clear whether gap fillings or estimations have been used.	
Statistical clarity	This data set is a collection of statistics from other sources. No methodology is given, though considering the data sources which are given we could assume high statistical quality.	2
Response rate	No information given.	
Comments	More information on the methodology, estimation method, etc. could be included.	
	Score:	12

Organisation	**Welsh Assembly Government**
Data source/title	**Welsh Housing Statistics – Quarterly newbuild release**
Topic	**Building rates and availability**
Info available	Provides information specific to Wales on new build and completions within Wales, by year and tenure. Data seems equivalent to that available primarily for England from CLG etc. New build release forms part of main Annual Housing Statistics. Available at: http://new.wales.gov.uk/topics/statistics/publications, which includes guidance notes on data sources.
Update frequency	Data published quarterly.
Methodology	Information on the progress of new house building in each sector provided by unitary authorities and the National House Building Council (NHBC) in respect of dwellings inspected by them under Building Control Regulations. The data collection is the responsibility of the Local Government Data Unit Wales. Data collected through the New Build Physical Progress Report – WHO2 return.
Availability	Available via Welsh Assembly Government website: http://new.wales.gov.uk/topics/statistics/headlines (Statistics section, Housing, New Build).
Links (i.e. uses data from other sources)	Some of the data collected by NHBC.

Organisation	Welsh Assembly Government	
Data source/title	Welsh Housing Statistics – Quarterly newbuild release	
Objectivity	This Statistical Release presents information on the number of new dwellings started and completed in Wales up to the end of September 2006 as reported by local authorities. This information is based on the reports by local authority building inspectors and the National House Building Council (NHBC) which we assume conduct the study in an objective manner.	3
Clarity of methodology	The introduction to the Welsh Housing Statistics clearly lists the sources of data, defines specific terms used, and clarifies the overall methodology.	3
Timeliness	Updated every quarter.	3
Scope	Covers many aspects of building and housing renovation in Wales specifically.	2
Gap-filling/estimation	In the introduction to the Welsh Housing Statistics it mentions that some of the data are provisional only. However, the actual tables do not mention where this is likely to be the case – it would be useful for more information on this to be provided.	2
Statistical clarity	The document mentions any potential problems with the data and clarifies what the data sources are.	2

Response rate	It appears that the newbuilds data is based on 100% response from local authorities.	
Comments	The analysis for the Statistical Release has been supplemented with the background information for the Welsh Housing Statistics 2005 to get a better understanding of the methodology.	
	Score:	15

Waste

Organisation	**BRE**
Data source/title	**IP8/02: Construction site packaging wastes: a market position report.**
Topic	**Waste**
Info available	Provides info on the key waste packaging products generated on sites. Packaging waste also show to be the highest percentage waste source or all waste types.
Update frequency	Published in 2002. No suggestion that the study will be updated.
Methodology	Series of BRE studies using SmartWaste to determine the composition of construction site packaging waste.
Availability	Available from www.brebookshop.com, £9. Or downloadable at IHS Construction Information Service.
Links (i.e. uses data from other sources)	

Organisation	BRE	
Data source/title	IP8/02: Construction site packaging wastes: a market position report.	
Objectivity	BRE conducted a 2-year DTI-funded project to assess levels of packaging waste from construction sites.	3
Clarity of methodology	Some details of methodology are provided. According to the report, the number of the studies was not sufficient to provide very accurate results; however it was enough to give a good picture of the key waste packaging products that are generated on sites. The wastage recorded at nine different sites was put into a standard format using BRE's SMARTWaste tool.	2
Timeliness	Published in 2002; no indication that study will be repeated although according to the authors, the next stage of the project is to examine the logistical issues of collection, to implement change on live construction sites, and to provide written guidance by summer 2003 for more efficient management of construction site packaging wastes.	2
Scope	Concerns waste packaging from construction sites across UK.	3
Gap-filling/estimation	Estimation used to scale up figures from nine construction sites examined to generate more general figures for the whole of the UK construction industry.	2
Statistical clarity	Statistical methods are not detailed this report, however one assumes the SMARTWaste tool requires some statistics to run.	1
Response rate	None indicated.	
	Score:	13

Organisation	**Defra**
Data source/title	**Waste and Recycling – Construction and Demolition Waste Management: '99 to '03**
Topic	**Waste**
Info available	Reproduces/summarises ODPM/CLG data on CD&E Waste. Estimates suggest that the amount of construction and demolition waste generated in England has increased from about 69 million tonnes in 1999 to about 91 million tonnes in 2003. Over this period, the proportion of construction and demolition waste recycled by crushers and screeners has increased from 35 per cent to 50 per cent. The proportion of construction and demolition waste sent to landfill has fallen from 37 per cent to 32 per cent, although the tonnage of waste landfilled has increased from about 26 million tonnes to 29 million tonnes. In 2003 the Office of the Deputy Prime Minister carried out a survey into the arisings and use of Construction and Demolition wastes in England. This followed two earlier surveys in 1999 and 2001. Table 8 summarises the results of this survey. Total construction and demolition waste for England was estimated at 90.93 million tonnes up from an estimated 69.2 million tonnes in 1999. 50 per cent was recycled and a further 18 per cent was spread on exempt sites (usually land reclamation, agricultural improvement or infrastructure projects). The remaining 32 per cent was sent to landfill (including backfilling at quarries, and landfill engineering) as waste.
Update frequency	Surveys appear to be carried out every 2 years for ODPM (now CLG). However, data released in Feb 2006, so latest figures may be up to 3 years old. (These figures based on study published in 2004.)
Methodology	Uses CLG Construction, Demolition and Excavation Waste Survey information.
Availability	Summary data available via DEFRA website: www.defra.gov.uk/environment/statistics/waste/index.htm. Data taken from ODPM Survey of arisings and use of construction, demolition and excavation waste as aggregate in England in 2003.
Links (i.e. uses data from other sources)	ODPM/CLG.

Statistical assessment will be the same as for CLG's Construction, Demolition & Excavation Waste Survey 2003.

Organisation	**Defra**
Data source/title	**Waste and Recycling – Industrial and Commercial Waste Management**
Topic	**Waste**
Info available	Around 67.9 million tonnes of industrial and commercial waste was produced in England in 2002/3; 1 per cent less than the 68.8 million tonnes produced in 1998/9. Within this total, industrial waste had reduced to 38 million tonnes in 2002/3 while the amount of commercial waste had grown to 30 million tonnes. In 2002/3 disposal of commercial and industrial waste to landfill was 13 per cent lower than in 1998/9 and, for the first time, recycling and reuse had overtaken landfill as the most common method of waste management. Overall 44 per cent was sent to landfill and 45 per cent recycled. Note: About 5 per cent of commercial and industrial waste recorded on the survey is sent to an unknown or unsampled destination. Similarly, about 2 per cent of waste is sent to transfer stations before going on for further disposal or recovery. This waste has been allocated to the existing management categories to produce an estimate for all commercial and industrial waste reaching each destination.
Update frequency	Appears to be ad hoc
Methodology	This data summarises results from two waste surveys that were carried out by the Environment Agency and published in 1999 and 2003 respectively. The surveys collected data on types and quantities of waste produced, methods of disposal and recovery used and costs (or income) associated with waste disposal. The methodology/sampling of respondents varied between the two reports, so apparently the data between each could not be directly compared. However, the 1999 data was apparently 're-classified' according to the methods used in the 2003 report, allowing some equivalence between the results (seemingly reported here by Defra). The data is obtained by surveying industry. The list of potential companies was apparently provided by ONS, with their SIC classification codes also used (so matches with Prodcom data structure?). The Environment Agency produced a web tool to view data (available at www.environment-agency.gov.uk).
Availability	Available via DEFRA website: www.defra.gov.uk/environment/statistics.
Links (i.e. uses data from other sources)	Environment Agency – National Waste Production Survey ('98/99) and Commercial and Industrial Waste Survey ('02/03), ONS.

Statistical assessment will be the same as for the Environment Agency's Commercial and Industrial Waste Survey.

Organisation	**Defra**
Data source/title	**Waste and Recycling – Materials recycling compared to consumption**
Topic	**Waste**
Info available	In the 1980s and 1990s a greater proportion of the lead, ferrous metals and paper and board consumed was recycled than other materials. The percentage of these materials recycled has remained at much the same level since 1984. The recycling rate for glass containers has risen from 6 per cent in 1984 to 35 per cent in 2003. Around a quarter of aluminium packaging (including cans, containers, trays and foil) is recycled. The recycling of plastics is at a lower level but the recycling rate more than trebled between 1995 and 2003 to 10 per cent.
Update frequency	Data published November 2004 and not updated since. Appears to be collected from various industry sources annually (see Excel spreadsheet of data on website).
Methodology	Appears to gather data annually from various sources, including World Bureau of Metal Statistics (World Metal Statistics (monthly). British Paper & Board Industry Federation, Corus, Alupro, British Glass Federation, British Plastics Federation.
Availability	Available via DEFRA website: www.defra.gov.uk/environment/statistics.
Links (i.e. uses data from other sources)	World Bureau of Metal Statistics (World Metal Statistics (monthly). British Paper & Board Industry Federation, Corus, Alupro, British Glass Federation, British Plastics Federation.

Organisation	Defra	
Data source/title	Waste and Recycling – Materials recycling compared to consumption	
Objectivity	A Defra summary of recycling data collected from a variety of sources including, among others, World Bureau of Metal Statistics, British Paper & Board Industry Federation, and Corus covering many material types. It is assumed that the federations must provide reliable and objective data.	3
Clarity of methodology	None provided in Defra summary.	
Timeliness	Data published November 2004 and not updated since. No indication of further updates.	2
Scope	Covers recycling data for a variety of materials from 1984 to 2003.	3
Gap-filling/estimation	None indicated in summary although estimation is referred in data sets in .xls files e.g. ferrous metals.	2
Statistical clarity	No statistics shown in summary.	
Response rate	None indicated.	
Comments	Summary document of other studies, so difficult to critique from a statistical perspective.	
	Score:	10

Organisation	**Defra**
Data source/title	**Waste and Recycling – Total waste generated by sector, 2004**
Topic	**Waste**
Info available	Provides approximated information on the contribution to overall UK waste by each sector, including from construction, agriculture, sewage sludge, household waste, commercial, industrial and dredged minerals.
Update frequency	Based on a range of data sources. Some may be updated more frequently than others. Perhaps it may be difficult for Defra to update this sort of data with any reliability of frequency.
Methodology	C&D waste data comes from CLG biennial survey on C&D waste arisings, combined with data from various other sources (e.g. municipal waste comes from local authority returns (Defra); commercial and industrial data from the EA's 2003 C&I waste survey; sewage from Water UK; dredging data from CEFAS; agricultural data from an EA model).
Availability	Available via DEFRA website: e-Digest of Environmental Statistics: www.defra.gov.uk/environment/statistics/waste/kf/wrkf02.htm.
Links (i.e. uses data from other sources)	ODPM/CLG, Defra, Environment Agency, Water UK, CEFAS.

Organisation	DEFRA	
Data source/title	Waste and Recycling – Total waste generated by sector, 2004	
Objectivity	Estimated total annual waste arisings in the UK, by sector. Statistics compiled by Defra but derived from variety of sources. C&D waste data comes from Department for Communities and Local Government (CLG) biennial survey on C&D waste arisings, combined with data from various other sources.	3
Clarity of methodology	No clear methodology is stated for how the data has been compiled into summary. There are some links available to some of the source data which may reveal methodology of original studies (as in the case of CLG report cited below).	1
Timeliness	According to the website, the pages were published by Defra Feb 2006. However, it refers to data which one might expect to have more recent updates, e.g. CLG's most recent biennial report is 2003.	2
Scope	Summary charts cover UK, though C&D waste refers to England only.	3
Gap-filling/estimation	Use of estimation not stated.	
Statistical clarity	Use of statistics is not stated, though as this is a summary document compiled from a range of studies, it may not be necessary.	2

Response rate	N/A	
Comments	Defra summary data covers waste generated for all sectors in the UK of both controlled and non-controlled waste. Thus whilecoverage includes C&D it also includes commercial, household, industrial, etc.	
	Score:	15

Organisation	**DEFRA**
Data source/title	**Waste and Recycling – Waste arisings and management: '98/99 vs '02/03**
Topic	**Waste**
Info available	Estimates of overall UK wastage tonnages by construction sector, giving details of its disposal route. Data from 1998/9 vs 2002/3.
Update frequency	(Data compared is 4 years apart. May update in another 4 years (i.e. '06/'07) but no formal indication of update frequency.) Based on a range of data sources. Some may be updated more frequently than others. It may be difficult for Defra to update this sort of data with any reliability of frequency.
Methodology	C&D waste data comes from CLG biennial survey on C&D waste arisings, combined with data from various other sources (e.g. municipal waste comes from local authority returns (Defra); commercial and industrial data from the EA's 2003 C&I waste survey).
Availability	Available via DEFRA website: www.defra.gov.uk/environment/statistics/waste/kf/wrkf14.htm.
Links (i.e. uses data from other sources)	ODPM/DCLG, Environment Agency.

Organisation	Defra	
Data source/title	Waste and Recycling – Total waste generated by sector, 2004	
Objectivity	Estimated total annual waste arisings in the UK, by sector. Statistics compiled by Defra but derived from variety of sources. C&D waste data comes from CLG biennial survey on C&D waste arisings, combined with data from various other sources (e.g. municipal waste comes from local authority returns (Defra); commercial and industrial data from the EA's 2003 C&I waste survey; sewage from Water UK; dredging data from CEFAS; agricultural data from an EA model).	3
Clarity of methodology	No clear methodology for how the data has been compiled into summary. There are some links available to some of the source data which may reveal methodology of original studies (as in the case of the CLG report cited below).	1
Timeliness	According to the website, the pages were published by Defra Feb 2006. However, it refers to data which one might expect to have more recent updates, e.g. CLG's most recent biennial report is 2003.	2
Scope	Summary charts cover UK though C&D waste refers to England only.	3
Gap-filling/estimation	Use of estimation not stated.	
Statistical clarity	Use of statistics is not stated, though being as this is a summary document compiled from a range of studies it may not be necessary.	2

Response rate	N/A	
Comments	Defra summary data covers waste generated for all sectors in the UK of both controlled and non-controlled waste. Thus while coverage includes, C&D it also includes commercial, household, industrial, etc.	
	Score:	15

Organisation	**Environment Agency**
Data source/title	**Construction, Demolition, and Excavation Waste, 2003 – CDEW Survey 2003**
Topic	**Waste**
Info available	Provides summary data from CLG's Survey of Construction, Demolition and Excavation Waste. Gives information on the disposal route for CD&E waste and an assessment of trends over previous years.
Update frequency	C&D Waste management survey updated every 2 years by ODPM/CLG.
Methodology	Produced using ODPM's Survey of Arisings and Use of Construction, Demolition and Excavation Waste as Aggregate in England in 2003'.
Availability	Available on website: www.environment-agency.gov.uk/subjects/waste.
Links (i.e. uses data from other sources)	Uses data from ODPM/CLG survey.

Statistical assessment will be the same as for CLG's Survey on Construction, Demolition and Excavation Waste.

Organisation	**Environment Agency**
Data source/title	**Construction and demolition waste going to landfill in the UK, 1997 to Q3 2003**
Topic	**Waste**
Info available	Presents amounts of demolition waste sent to landfill between 1997 and 2003. Information derived from HMCE. "A decline in the amounts of construction waste going to landfill can reflect a reduction in the amount of construction waste generated, an increase in the percentage of waste re-used or recycled, or an increase in unauthorised landfilling or flytipping. The landfill tax of £2 per tonne for inactive waste has encouraged producers to look for alternative uses for construction waste."
Update frequency	Quarterly (but data only reported until Q3 of 2003).
Methodology	Source – HM Customs and Excise. This indicator is based on monthly figures for amounts of waste attracting the lower rate of landfill tax. Amounts of inactive industrial waste from identified industrial companies, amounting to about five million tonnes per year, have been excluded from the figures, but the reported figures may include some further unidentified inactive industrial waste.
Availability	Available on website: www.environment-agency.gov.uk/yourenv.
Links (i.e. uses data from other sources)	HMCE

Organisation	Environment Agency	
Data source/title	Construction and demolition waste going to landfill in the UK, 1997 to Q3 2003	
Objectivity	Data provided by HM Customs and Excise, is presumably objective.	3
Clarity of methodology	No methodology given, simply a data set.	
Timeliness	Quarterly (but data only reported until Q3 of 2003).	2
Scope	UK, overall figures, no regional breakdown provided.	2
Gap-filling/estimation	None indicated.	
Statistical clarity	No statistical method given, though may not have been necessary if all data available.	2
Response rate	None indicated.	
	Score:	9

Organisation	**Environment Agency**
Data source/title	**Hazardous waste information – England and Wales (Strategic Waste Management Information – SWMI) 2003**
Topic	**Waste**
Info available	Provides information on hazardous waste volumes broken down by sector, including construction and demolition, mining and minerals, packaging, organic processes, inorganic processes and others. Data also broken down by region.
Update frequency	Suggestion (from tables/charts) that data is collected annually, although only really reported and discussed 2003 data. Latest data available in spreadsheets is for 2004.
Methodology	Information comes from SWaT database. Also available via the Hazardous Waste Interrogator, which contains details of waste consignments and movements for the last 5 years. SWaT (hazardous waste tracking system): The Environment Agency has a hazardous waste database maintains records of every load (consignment) of hazardous waste in England and Wales. Data held includes type(s) of waste (based on European Waste Catalogue [EWC] definitions), amounts of waste consigned, and details of the origin and destination of each consignment.
Availability	Available on website: www.environment-agency.gov.uk/subjects/waste. Excel tables from SWaT downloadable from EA website giving figures up to and including 2004, even though majority of data only reported for 2003 elsewhere. Downloadable at: www.environment-agency.gov.uk/subjects/waste.
Links (i.e. uses data from other sources)	

Organisation	Environment Agency	
Data source/title	Hazardous waste information – England and Wales (Strategic Waste Management Information – SWMI) 2003	
Objectivity	The fact that is it produced/published by the Environment Agency implies a high standard of objectivity.	3
Clarity of methodology	None stated.	
Timeliness	Suggestion (from tables/some charts) that data is collected annually, although only really reported and discussed 2003 data.	2
Scope	Waste data appears fairly comprehensive. Covers period from 1998/9–2004 for all English regions and Wales.	3
Gap-filling/estimation	None indicated.	
Statistical clarity	Difficult to comment. Appears to be raw data only?	

Response rate	None indicated.	
Comments	Frequency of data update could be stated along with methodology and information about any estimation used.	
	Score:	8

Organisation	**Environment Agency**
Data source/title	**Disposal and recovery options used for Hazardous Waste in 2003**
Topic	**Waste**
Info available	Provides information on hazardous waste management routes for various sectors, including construction and demolition, mining and minerals, packaging, organic processes, inorganic processes and others.
Update frequency	From other web pages using same data source, appears that raw data updated annually (most recent 2004) although data discussed with tables etc for 2003.
Methodology	Information comes from SWaT database. Also available via the Hazardous Waste Interrogator, which contains details of waste consignments and movements for the last 5 years. SWaT (hazardous waste tracking system): The Environment Agency has a hazardous waste database maintains records of every load (consignment) of hazardous waste in England and Wales. Data held includes type(s) of waste (based on European Waste Catalogue [EWC] definitions), amounts of waste consigned, and details of the origin and destination of each consignment.
Availability	Available on website: www.environment-agency.gov.uk/subjects/waste.
Links (i.e. uses data from other sources)	

Statistical assessment will be the same as for others using same source (above – EA Hazardous Waste information).

Organisation	**Environment Agency**
Data source/title	**National trends in the production and management of hazardous waste**
Topic	**Waste**
Info available	Provides information on the trends of hazardous waste production over time (1998/9 to 2003) for various sectors, including construction and demolition, oils and solvents, chemicals and refining, thermal processes, waste water treatment and general industry.
Update frequency	From other web pages using same data source, appears that raw data updated annually (oldest, 1999, most recent, 2004) although data discussed with tables etc for 2003.
Methodology	Information comes from SWaT database. Also available via the Hazardous Waste Interrogator, which contains details of waste consignments and movements for the last 5 years. SWaT (hazardous waste tracking system): The Environment Agency has a hazardous waste database maintains records of every load (consignment) of hazardous waste in England and Wales. Data held includes type(s) of waste (based on European Waste Catalogue [EWC] definitions), amounts of waste consigned, and details of the origin and destination of each consignment.
Availability	Available on website: www.environment-agency.gov.uk/subjects/waste.
Links (i.e. uses data from other sources)	

Organisation	Environment Agency	
Data source/title	National trends in the production and management of hazardous waste	
Objectivity	Produced/published by the Environment Agency so assume a high standard of objectivity.	3
Clarity of methodology	Data accessed via Excel document. No explanation of how data was collected, though appears to rely on SWaT data (The Agency's Special Waste Database/Hazardous Waste Tracking System www.environment-agency.gov.uk/subjects/waste. One assumes original data since no use of estimation and or statistics is indicated.	1
Timeliness	Appears to cover period 1998/9–2003, no indication of further updates.	1
Scope	Covers production and trends of hazardous waste for the English regions and Wales.	3
Gap-filling/estimation	Use of estimation not indicated. May be original data?	3
Statistical clarity	No use of statistics is indicated.	3
Response rate		
Comments	Indication of both source of data and timing of next update would be useful.	
	Score:	14

Organisation	**Environment Agency**
Data source/title	**Movements of hazardous Construction and Demolition waste in 2003**
Topic	**Waste**
Info available	Provides data on the movement of C&D hazardous waste in the UK in 2003. "Levels of movement for C&D waste were much lower than is typical for hazardous waste, and average levels of self-containment were much higher (75 percent); London accounted for 42 percent of all hazardous C&D waste movements in 2003 – almost all of this was in the form of exports of contaminated soils to East of England or South East; and other significant hazardous C&D movements arose from the West Midlands and South East. Most of the West Midlands waste went to the East Midlands and arose from a single large contaminated land clearance operation in Coventry. " Map with weighted arrows showing movements of hazardous C&D waste between regions and levels of self-containment achieved.
Update frequency	From other web pages using same data source, appears that raw data updated annually (most recent 2004) although data discussed with tables etc for 2003.
Methodology	Information comes from SWaT database. Also available via the Hazardous Waste Interrogator, which contains details of waste consignments and movements for the last 5 years. SWaT (hazardous waste tracking system): The Environment Agency has a hazardous waste database maintains records of every load (consignment) of hazardous waste in England and Wales. Data held includes type(s) of waste (based on European Waste Catalogue [EWC] definitions), amounts of waste consigned, and details of the origin and destination of each consignment.
Availability	Available on website: www.environment-agency.gov.uk/subjects/waste.
Links (i.e. uses data from other sources)	

Organisation	Environment Agency	
Data source/title	Movements of hazardous Construction and Demolition waste in 2003	
Objectivity	Produced/published by the Environment Agency so assume a high standard of objectivity.	3
Clarity of methodology	Data accessed via Excel document. No explanation of how data was collected, though appears to rely on SWaT data (The Agency's Special Waste Database/Hazardous Waste Tracking System www.environment-agency.gov.uk/subjects/waste). One assumes original data since no use of estimation and or statistics is indicated.	1
Timeliness	Data refers to 2003. No indication of update.	1
Scope	Covers movements across all English regions and Wales for all hazardous waste plus specific table on C&D waste.	3

Gap-filling/estimation	Use of estimation not indicated. May be original data?	3
Statistical clarity	No use of statistics is indicated.	3
Response rate		
Comments	Indication of both source of data and timing of next update would be useful.	
	Score:	14

Organisation	**Environment Agency**
Data source/title	**Regional variations in construction, demolition and excavation waste (CD&E waste) production and use**
Topic	**Waste**
Info available	Provides summary details from the CLG Survey of CD&E Waste, including the disposal route for waste by English region and the variation in the type of waste landfilled in each region.
Update frequency	C&D Waste management survey updated every 2 years by ODPM/CLG
Methodology	Information produced from ODPM's Survey of Arisings and Use of Construction, Demolition and Excavation Waste as Aggregate in England in 2003.
Availability	Available on website: www.environment-agency.gov.uk/subjects/waste.
Links (i.e. uses data from other sources)	Uses data from ODPM/CLG survey.

Statistical assessment will be the same as for CLG's Survey on Construction, Demolition and Excavation Waste.

Organisation	**Environment Agency**
Data source/title	**Strategic Waste Management Information 2002/03**
Topic	**Waste**
Info available	Web pages give an overview of information EA have brought together on different types of waste and how they are managed. They cover an estimated 235 million tonnes of wastes from households, business, farming and construction. Shows the division of waste under each of these categories. Information on the amounts and types of wastes produced and the methods used to manage it in England, Wales and English regions. The information is for the financial year 2002–3 or calendar year 2003, the latest year for which all these data sets are available.
Update frequency	States that 2003 data is the most recent for which all the data sets are available. Assume it will be updated as more recent data is collected. CDEW survey appears to be carried out every 2 years, so suggests that the summary data may be updated every 2 years, when data available.
Methodology	Seems to summarise data from other EA sources and surveys, including Construction, demolition and excavation waste, agricultural waste, commercial and industrial waste, hazardous waste, Municipal waste and info from waste inputs to licensed waste management facilities and regional waste updates. (Surveys detailed separately in other tables where appropriate.)
Availability	Available on website: www.environment-agency.gov.uk/subjects/waste.
Links (i.e. uses data from other sources)	Some surveys (CDEW etc) use data from ODPM/CLG.

Organisation	Environment Agency	
Data source/title	Strategic Waste Management Information 2002/03	
Objectivity	Some data refers to/drawn from C&I waste surveys 2002/03	3
Clarity of methodology	According to the website, the information on these pages provides consistent, comprehensive information on the amounts and types of wastes produced and the methods used to manage it in England, Wales and English regions. However, no information on how data is collected.	1
Timeliness	The information is for the financial year 2002–3 or calendar year 2003, the latest year for which all these data sets are available. No indication of future updates.	1
Scope	England, Wales and English regions, info in summaries derived from C&I surveys and hazardous waste.	3
Gap-filling/estimation	None indicated.	2
Statistical clarity	None indicated, mostly summary charts and data.	3
Response rate		
Comments	Should perhaps give some indication of update frequency.	
	Score:	13

Organisation	**Environment Agency**
Data source/title	**Waste composition and methods of disposal and recovery used**
Topic	**Waste**
Info available	Provides information on CD&E waste deposits on exempt sites in 2003 (compared to 1999 and 2001). It also gives the % of the various types of CD&E waste being disposed of as landfill, e.g. mixed, contaminated or clean, etc.
Update frequency	C&D Waste management survey updated every 2 years by ODPM/CLG.
Methodology	Information produced from ODPM's Survey of Arisings and Use of Construction, Demolition and Excavation Waste as Aggregate in England in 2003.
Availability	Available on website: www.environment-agency.gov.uk/subjects/waste.
Links (i.e. uses data from other sources)	Uses data from ODPM/CLG survey.

Statistical assessment will be the same as for CLG's Survey on Construction, Demolition and Excavation Waste.

Organisation	**London Development Agency**
Data source/title	**Green Alchemy. Turning Green to Gold: Creating Resource from London's Waste**
Topic	**Waste**
Info available	• Tonnes of waste arising in London in 2000/01, separated by type, including C&D at 6,594,000 tonnes. • Tonnes of waste recycled in London in 2000/01, by type, including C&D at 3,312,000 tonnes (around 50%). • 92% of recycled C&D waste is crushed and used as graded or ungraded substitute for aggregates. The rest is used as soil. • Gives predictions for 2006 of 7.7 million tonnes C&D waste arising and 3.9 million tonnes recycled. • Gives analysis of market demand for recycled products. • Gives packaging waste recycling and recovery levels for 2000.
Update frequency	Report from a single study. No indication that it will be repeated. Published November 2003, largely based on 2000/2001 data.
Methodology	Data from EA National Waste Survey, 1999 data and from Letsrecycle.com.
Availability	Report available to download from LDA website: www.lda.gov.uk/server/show/ConWebDoc.305.
Links (i.e. uses data from other sources)	Environment Agency, National Waste Survey.

Organisation	London Development Agency	
Data source/title	Green Alchemy. Turning Green to Gold: Creating Resource from London's Waste	
Objectivity	Research conducted by the London Development Agency (LDA) so presumably was objective in nature. Eight materials identified for investigation. Another material, construction and demolition waste (C&D), was added to the study following consultation with industry stakeholders.	3
Clarity of methodology	Methods are detailed in appendix. According to the report, the research programme involved a mix of quantitative and qualitative research methods although little statistical methodology is described. Data for C&D comes from National Waste Survey conducted by the Environment Agency, DfT and Brook Lyndhurst.	3
Timeliness	Report from a single study. No indication that it will be repeated. Published November 2003, largely based on 2000/2001 data.	1
Scope	Covers a number (9) of 'priority' waste streams that were identified as offering greatest market potential, one of which is construction and demolition. Concerns London area only.	2
Gap-filling/estimation	Some estimation used. According to the report, estimations of waste arisings in London were calculated using indicators such as the London share of UK GDP.	2

Statistical clarity	The use of statistical methodology is not stated but it may not be relevant for this project.	2
Response rate	None indicated.	
	Score:	13

Energy, emissions and transport

Organisation	**OECD** – Organization for Economic Co-operation and Development
Data source/title	**OECD in figures 2005 – Emissions and Pollution**
Topic	**Energy, Emissions, Transport**
Info available	Emissions to air of sulfur and nitrogen oxides for World countries. Also Industrial, Municipal and Nuclear waste generated. Data for 2003 in summary booklet or available as downloadable Excel spreadsheets.
Update frequency	Assume updated annually, for 2 years prior (2003 data published in 2005).
Methodology	*"OECD in Figures* is an original, simple to use, pocket data book. It is a primary statistical source. As with all OECD data, it is compiled and checked by our experts, so that decision-makers in government, research and business know they can rely on it." "The OECD collects statistics needed for the analysis of economic and social developments by its in-house analysts, committees, working parties, and member country governments from statistical agencies and other institutions of its member countries. The OECD shares the experience gained by members in compiling reliable and comparable statistics with non-member countries." UK sources include Bank of England, CLG, ONS, Skillsbase Labour Market Information database, HMCE (may not use all for all stats).
Availability	Available via OECD website statistics portal, Environment Section: www.oecd.org.
Links (i.e. uses data from other sources)	Bank of England, CLG, ONS, Skillsbase Labour Market Information database, HMCE (may not use all for all stats).

Organisation	OECD	
Data source/title	OECD in figures 2005 – Emissions and Pollution	
Objectivity	The study uses primary statistical sources generated by OECD. A variety of other official governments statistical sources have been used. High statistical standards had been targeted.	3
Clarity of methodology	Methodology is explained. However, statistical data from different countries has been selected using various methods which is difficult to trace.	2
Timeliness	Updated annually, however it uses figures from the latest available year and therefore data could vary from country to country.	3
Scope	Provides information for all OECD countries. Limited number of gases covered and limited sources of waste.	2
Gap-filling/estimation	Estimates are used. Not clear where that has been the case.	1
Statistical clarity	Because of the variety of sources used and the differences in the methodologies, it is not clear whether all the data has been selected in an unbiased and statistically sound way. Varying definitions used by different countries limit the comparability.	2

Response rate	Not given.
Comments	When assessing this study, country differences should be considered as different methodologies were used.
	Score: 13

Organisation	**OECD** – Organization for Economic Co-operation and Development
Data source/title	**OECD in figures 2005 – Energy Consumption and Electricity Generation**
Topic	**Energy, emissions, transport**
Info available	Total electricity generation for World countries and energy consumption by sector, e.g. transport, industry, other. Data for 2003 in summary booklet or available as downloadable Excel spreadsheets.
Update frequency	Assume updated annually, for 2 years prior (2003 data published in 2005).
Methodology	*"OECD in Figures* is an original, simple to use, pocket data book. It is a primary statistical source. As with all OECD data, it is compiled and checked by our experts, so that decision-makers in government, research and business know they can rely on it." "The OECD collects statistics needed for the analysis of economic and social developments by its in-house analysts, committees, working parties, and member country governments from statistical agencies and other institutions of its member countries. The OECD shares the experience gained by members in compiling reliable and comparable statistics with non-member countries." UK sources include Bank of England, CLG, ONS, Skillsbase Labour Market Information database, HMCE (may not use all for all stats).
Availability	Available via OECD website statistics portal, Energy Section: www.oecd.org.
Links (i.e. uses data from other sources)	Bank of England, CLG, ONS, Skillsbase Labour Market Information database, HMCE (may not use all for all stats).

Organisation	OECD	
Data source/title	OECD in figures 2005 – Energy Consumption and Electricity Generation	
Objectivity	The study uses primary statistical source generated by the OECD and the IEA. It could be presumed that it has been conducted to high statistical standards.	3
Clarity of methodology	The methodology is generally explained, however details are not provided.	2
Timeliness	The booklet is updated annually, however the report for 2005 presents data for 2003.	3
Scope	Provides information for all OECD countries. Sectoral break down includes only industry and transport.	2
Gap-filling/estimation	No information about use of estimates .	
Statistical clarity	Some figures are based on assumptions of efficiency. Given that data generated by IEA has been used it could be assumed that the information is selected in an unbiased way and statistical standards have been met.	2
Response rate	No information given.	
	Score:	12

Organisation	**OECD** – Organization for Economic Co-operation and Development
Data source/title	**OECD in figures 2005 – Energy Production**
Topic	**Energy, emissions, transport**
Info available	Energy production by source type for World countries. i.e. from oil, coal, natural gas, nuclear and 'other' sources (renewable). Data for 2003 in summary booklet or available as downloadable Excel spreadsheets.
Update frequency	Assume updated annually, for 2 years prior (2003 data published in 2005).
Methodology	*"OECD in Figures* is an original, simple to use, pocket data book. It is a primary statistical source. As with all OECD data, it is compiled and checked by our experts, so that decision-makers in government, research and business know they can rely on it." "The OECD collects statistics needed for the analysis of economic and social developments by its in-house analysts, committees, working parties, and member country governments from statistical agencies and other institutions of its member countries. The OECD shares the experience gained by members in compiling reliable and comparable statistics with non-member countries." UK sources include Bank of England, CLG, ONS, Skillsbase Labour Market Information database, HMCE (may not use all for all stats).
Availability	Available via OECD website statistics portal, Energy Section: www.oecd.org.
Links (i.e. uses data from other sources)	Bank of England, CLG, ONS, Skillsbase Labour Market Information database, HMCE (may not use all for all stats).

Organisation	OECD	
Data source/title	OECD in figures 2005 – energy production	
Objectivity	The study uses primary statistical sources generated by the OECD and the IEA. It can be presumed that it has been conducted to a high statistical standard.	3
Clarity of methodology	Methodology is generally explained. However, details are not provided.	2
Timeliness	The booklet is updated annually, however the report for 2005 presents data for 2003.	3
Scope	Provides information for all OECD countries by type of energy production source. Non-conventional energy production including different renewables are given as an aggregated figure.	3
Gap-filling/estimation	No information provided.	
Statistical clarity	Some figures are based on assumptions of efficiency. Given that data generated by IEA has been used it could be assumed that the information is selected in an unbiased way and statistical standards have been met.	2
Response rate	Not given.	
Comments	Very general study.	
	Score:	13

Organisation	**ONS** – National Statistics Office
Data source/title	**Environmental Accounts – Atmospheric Emissions**
Topic	**Energy, emissions, transport**
Info available	Environmental Accounts provide information on the environmental impact of UK economic activity (in particular on the emissions of pollutants) and on the importance of natural resources to the economy. The atmospheric emissions section provides estimates of pollutants directly emitted to the atmosphere by industrial sector.
Update frequency	Updated every spring and autumn (latest data published 2006, based on 2004 info, so 2 year delay).
Methodology	The disaggregation of national estimates of emissions to industrial sectors is based upon an initial disaggregation provided by (NETCEN), which maintains the National Atmospheric Emissions Inventory (NAEI). Emissions are estimated by multiplying fuel consumption by emissions factors and adding releases unrelated to fuel use such as methane arising from landfill. Netcen www.airquality.co.uk/archive/index.php, Defra: www.defra.gov.uk/environment/statistics.
Availability	Available via ONS website: www.statistics.gov.uk. Environmental Accounts are published in the spring and autumn of each year. The availability of various data sources used in Environmental Accounts varies from topic to topic. It is therefore not possible to update all sections of the publication for every edition.
Links (i.e. uses data from other sources)	NETCEN (now AEA Energy and Environment), Defra

Organisation	ONS	
Data source/title	Environmental accounts – Atmospheric Emissions	
Objectivity	The study has been conducted by the ONS and therefore it can be assumed that it has been undertaken an unbiased way and to high statistical standards. Data has been provided by a variety of sources including NETCEN and Defra.	3
Clarity of methodology	The methodology of final calculation is explained, references for sources of data collection are given. Given that the study compares with reported data from the IPCC, it could be presumed that the report is produced to a high statistical standards.	2
Timeliness	Environmental accounts are updated twice per year. This particular account updates once per year and the 2006 report is based on 2004 data.	3
Scope	The study covers a variety of gases and compares IPCC standards with National Accounts measure.	3
Gap-filling/estimation	No estimations used at this level. However, it is likely that estimations have been used within the initial data collection stage.	2

Statistical clarity	References to different data sources are provided. Considering that the study needs to meet international standards and that data is provided to a high standard, it can be assumed that the research has been conducted in an unbiased way. However, the range of data sources makes it difficult to summarise a coherent approach.	3
Response rate	Not given.	
Comments	The study presents very wide range of data. There are over a hundred data sources, which makes it difficult to assess consistency and coherence between methodologies.	
	Score:	16

Organisation	**ONS** – National Statistics Office
Data source/title	**Environmental Accounts – Energy and Emissions**
Topic	**Energy, emissions, transport**
Info available	Environmental Accounts provide information on the environmental impact of UK economic activity (in particular on the emissions of pollutants) and on the importance of natural resources to the economy. Energy consumption – showing energy and fossil fuel consumption by industrial sectors.
Update frequency	Updated every spring and autumn (latest data published 2006, based on 2004 info, so 2 year delay).
Methodology	Data for estimating fuel consumption by broad sector are collected by the DTI and are published in DUKES. Department of Trade and Industry. *Digest of United Kingdom Energy Statistics*. Various issues. HMSO/TSO. www.dti.gov.uk/energy/statistics/publications/dukes.
Availability	Available via ONS website: www.statistics.gov.uk. Environmental Accounts are published in the spring and autumn of each year. The availability of various data sources used in Environmental Accounts varies from topic to topic. It is therefore not possible to update all sections of the publication for every edition.
Links (i.e. uses data from other sources)	DTI.

Organisation	ONS	
Data source/title	Environmental Accounts – Energy and emissions	
Objectivity	Conducted by ONS. Data collected from NETCEN, DTI and ONS. It could be assumed that it has been conducted to a high statistical standard.	3
Clarity of methodology	Methodology is explained. References to data sources are provided. Considering initial data collection is primarily provided by DTI it should be assumed that the report is of a high statistical standard.	3
Timeliness	Environmental accounts are updated twice per year. This particular account updates once per year and the 2006 report is based on 2004 data.	3
Scope	Covers energy use from the whole United Kingdom with break down by main sectors.	3
Gap-filling/estimation	No estimations have been used.	3
Statistical clarity	This data set is a collection of statistics from a variety sources. Where the same data had been available from different sources and priority had been given to one of them, an explanation is provided.	3

Response rate	No information given.	
Comments	The environmental account on energy use includes data on use of carbon fuels, however it is primarily focussed on energy use.	
	Score:	18

Organisation	**ONS** – National Statistics Office **DTI?**
Data source/title	**Environmental Accounts – Oil and gas reserves**
Topic	**Energy, emissions, transport**
Info available	Environmental Accounts provide information on the environmental impact of UK economic activity (in particular on the emissions of pollutants) and on the importance of natural resources to the economy. Oil and gas reserves – providing information in physical and monetary terms.
Update frequency	Updated every spring and autumn (latest data published 2006, based on 2004 info, so 2 year delay).
Methodology	Simulation models using Monte Carlo techniques have been used each year by the DTI to assess the likely existence and size of undiscovered oil and gas fields on the UK Continental Shelf (UKCS). The expected level of reserves is calculated as the sum of proven and probable reserves and the lower bound estimate of the range of undiscovered reserves. Life expectancy is calculated as the expected level of reserves at the end of the year divided by the current level of annual extraction. This calculation gives an indication of the theoretical number of years for which extraction could be sustained at current levels. DTI *Development of UK Oil and Gas Resources* (the '*Brown Book*'). Various issues (title has changed over the years). HMSO/TSO. www.og.dti.gov.uk/information/statistics.htm.
Availability	Available via ONS website: www.statistics.gov.uk. Environmental Accounts are published in the spring and autumn of each year. The availability of various data sources used in Environmental Accounts varies from topic to topic. It is therefore not possible to update all sections of the publication for every edition.
Links (i.e. uses data from other sources)	DTI

Organisation	ONS	
Data source/title	Environmental Accounts – Oil and gas reserves	
Objectivity	The study has been conducted by the ONS and therefore it can be assumed that it has been undertaken in an unbiased way and to high statistical standards. Data was provided by the DTI.	3
Clarity of methodology	Methodology of final calculation is explained, however methodology of data collection is not given. To some extent information about the data sources can be found through DTI.	2
Timeliness	Environmental accounts are updated twice per year, however this account updates only once per year as it is based on information provided by DTI once per year. Last 2006 report is based on 2005 data.	3
Scope	The study encompasses all potential gas and oil reserves within the UK.	3

Gap-filling/estimation	Information about the methodology used to calculate expected reserves is clearly identified.	3
Statistical clarity	Data is collected by DTI. Some calculation methods are clearly explained. The study provides data for expected reserves which is a hypothetical figure.	3
Response rate	Not given.	
Comments	High standard data. However given that information is provided for expected proven and probable reserves the final figures should not be treated as undisputable.	
	Score:	17

Cost models and price books

Organisation	**BRE**
Data source/Title	**Whole Life Costing (WLC)**
Topic	**Building regulations and cost models**
Info available	Provides information on the total cost of ownership of a building, from cradle to grave, so not only designing and constructing a building, but also managing and maintaining it (and disposal, to a limited extent). For example, allows potentially competing designs to be compared based on their ongoing costs as well as build costs.
Update frequency	Specific studies carried out for clients – no regular production.
Methodology	Uses data from several sources, including: • Site costs/Capital, maintenance and operation • Building Cost Information Services (BCIS) (initial cost) • Building Maintenance Information (BMI) (ongoing cost) • Price Guides (Laxtons, Wessex, Spons, etc) • Design engineering costs • RIBA/RICD published scale of fees • Regulatory/planning costs • Town and Country planning regs (Fees set by regulations) • www.opsi.gov.uk/si/si2005/20050843.htm • Construction Durability Database • Component life.com (£99 subscription for non-RSLs) • The CDD is based on 15 years of data on the relative durability of construction components, and is backed by the claims experience that an underwriter would want to rely on to know what actually, empirically would happen to components in use. It is an unrivalled source of information on component life prediction. • Deconstruction • Deconstruction and Reuse of construction materials, BRE Guide BR 418, 2001
Availability	Information provided specifically to clients and would not necessarily be freely available.
Links (i.e. uses data from other sources)	

No statistical assessment available for this source at present.

Organisation	**Davis Langdon**
Data source/Title	**SPONS price books**
Topic	**Building regulations and cost models**
Info available	Available for: • architects and builders • mechanical and electrical • civil engineering and highway works • landscape and external works • European construction costs • Asia Pacific construction costs. Includes a built-in uplift of 'wastage', but no indication given as to how this figure has been derived or what it actually is. Intention is to ensure that contractors don't 'lose out' by having to obtain further materials, rather than to specifically focus on or reduce waste arisings. Although Spons does not indicate what the uplift is, other price guides (e.g. Wessex & Laxtons) give an indication of the % uplift attributable to waste of different materials.
Update frequency	Updated every 2 years?
Methodology	Works prices based on wage rates from June 2006 and materials costs from May 2006. Built up prices include an allowance of 5% for overheads and 2.5% for profit. Generally prices derived from labour contribution plus materials contribution to give the overall rate (including any built in uplifts).
Availability	Available via Davis Langdon Research and Publications area of website: www.davislangdon.com.
Links (i.e. uses data from other sources)	(Similar publication to Laxtons pricing guides, etc.)

No statistical assessment available for this source at present.

Organisation	**Laxtons**
Data source/Title	**Laxtons Building Price Books**
Topic	**Building regulations and cost models**
Info available	Includes a built-in uplift of 'wastage' that varies depending on the material (from 2% up to 15%). Since an item may consist of a number of different materials with different waste factors, only the predominant material's waste factor is given. Intention is to ensure that contractors don't 'lose out' by having to obtain further materials, rather than to specifically focus on or reduce waste arisings.
Update frequency	
Methodology	Generally prices derived from labour contribution plus materials contribution to give the overall rate (including any built in uplifts).
Availability	Available from Laxtons, www.laxtons-live.co.uk.
Links (i.e. uses data from other sources)	

No statistical assessment available for this source at present.

Organisation	**RICS – BCIS**
Data source/Title	**Building Costs Information Services (BCIS)**
Topic	**Building regulations and cost models**
Info available	BCIS is the UK's leading provider of cost and price information for construction and property occupancy. The BCIS Tender Price Studies are statistical analyses of tender prices sampled from the industry. They represent general price levels and distribution. BCIS Tender Price Indices (TPI) measure the trend of contractors' pricing levels in accepted tenders, i.e. cost to client, for schemes let on a lump sum basis on bills of quantities. These projects come from BCIS subscribers and are from schemes let on Bills of Quantities for new buildings or horizontal extensions (refurbishment and conversion schemes are also included for the Type of Work study). Competitive tenders and negotiated contracts are included. The tender price of a project is affected by many factors. This study reports on the effect on tender prices of: location; regional trends; selection of contractor; building function; building height; type of work; site conditions and contract sum.
Update frequency	
Methodology	The statistical reliability of the factors given in the tables is dependent on two major factors – the number of projects included in each sample and the variability of the factors. An average based on a small number of widely varying figures is less reliable than one based on a large number of closely grouped figures. In order to achieve stability in the indices BCIS attempts to include 80 projects in each quarter, the more projects included the more reliable the resultant index. The actual sample achieved is shown against each index figure to give some indication of the stability of the index. The variance of the project indices is such that, when a sample of 80 schemes has been achieved, the 90% confidence interval is in the region of –2.7% to +2.8%. Bills of Quantities submitted to BCIS are repriced using a base schedule of rates which is applied to a sample of bill items. Results from the sample taken from each trade are used to estimate the tender for the project as if it had all been priced using the base schedule. The method aims to match a balance of trades, but M&E services and proprietary items are not usually matched. The base tender figure is compared with the actual tender figure to produce a project index. Standard adjustments are applied to the project index to remove some of the differences in index level expected for projects of different size, from different regions and using different procurement methods. The BCIS Tender Price Indices are based on accepted tenders for new building work with contract sums over £100,000 which have been priced in competition or by negotiation. The current average contract value in the sample is around £1 million.
Availability	Available on subscription from www.bcis.co.uk (online – price depends on level of access required).
Links (i.e. uses data from other sources)	

No statistical assessment available for this source at present.

Organisation	**RICS – BMI**
Data source/Title	**Building Maintenance Information (BMI)**
Topic	**Building regulations and cost models**
Info available	It provides information on the cost of occupying, running and maintaining buildings based on information collected from subscribers. Subscribers are provided with unique information on current, historic and forecast costs of building maintenance and occupancy in a readily accessible form. Includes information on labour, materials, disposal (including landfill tax etc).
Update frequency	Annual subscription.
Methodology	Further information on methodology required.
Availability	Available on subscription from www.bcis.co.uk (online – price depends on level of access required).
Links (i.e. uses data from other sources)	

No statistical assessment available for this source at present.