

Shanks Group CR Report

CR performance indicators: Indicators and definitions 2011 report

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1. Chief Executive's statement

Corporate responsibility (CR) – sustainable performance

Shanks Group is committed to good standards of corporate responsibility (CR). Critical to this is reporting on key CR performance indicators: Without reporting, any commitment to corporate responsibility could be seen as an empty statement with no support.

Below are what Shanks considers to be its key CR performance measures and an outline of how they are calculated. These include both environmental issues and health and safety performance as well as employee data and information on Shank's approach to its wider stakeholders. These performance indicators will be used in Shank's Group Corporate Responsibility Report 2011.

It is critical that these CR performance indicators are as accurate as we can achieve and that they are produced on time: The Group CR Report will be published at the same time as the company's financial report and neither publication can wait for late data.

Please ensure that if you are responsible for providing data for Shanks CR Report that it is produced on time, and that you have clear working papers to support its accuracy. CR reporting is as critical to Shanks as financial reporting and you should treat any request for CR information as a priority.



**Tom Drury,
Group CEO,
Shanks Group plc.**

2. General reporting guidelines

The below tables show the CR performance indicators which will be used in Shanks 2011 Group CR Report. These are listed by type (environment, employee wellbeing, wider community etc). Each indicator is listed by what it is, the units the indicator is reported in and comments plus methods of calculation for the indicator where appropriate. For many indicators the method of calculation is obvious, while for others more explanation is provided. However, in general:

- ✓ The annual CR Report reports performance on a financial year basis. For example, 1st April 2010 to 31st March 2011. However, where data is collected on a calendar year (January – December) for regulatory purposes (for example where an environmental regulator requires an annual report) such data is acceptable, but must be marked as being based on a calendar year and not financial year
- ✓ The report covers all operating divisions of the Group and all countries of operation and all sites/operations of the Group
- ✓ The report does not include the activities of sub-contractors or suppliers
- ✓ Reporting of Joint Ventures should be agreed on a case-by-case basis. Where Shanks has a less than 50% share in a company, data is not generally included. For example for the UK Joint Venture site Peckfield, environmental data is reported as a proportion representing the shareholding of Shanks (50%) to reflect the financial reporting arrangements (H&S and H.R. parameters are reported as 100% for contractual reasons). The raw data provided to the country data co-ordinator should be for the 100% and then the adjustment can be made accordingly. Specific arrangements for specific joint ventures will be decided on at the Group CR Committee (if in doubt ask)
- ✓ Where an operation was only operational (or owned by Shanks in the case of acquisitions) for part of the year, data should only be reported for that part of the year Shanks operated/owned the site
- ✓ Conversion factors for calculating carbon dioxide emissions are detailed in the table below. These are reviewed regularly and therefore if you have any queries on the conversion factors please contact your country co-ordinator as detailed below

Please note that the Group CR Report is published at the same time as the company's annual financial report. As such the collection of CR performance data on time is critical. If you believe you may have a problem collecting data on time please use the contact details as below.

3. Who to contact with queries

If you have any queries on the below indicators, how they are calculated etc please contact:

Shanks BE

Steven Ghysens

E-mail: steven.ghysens@enviropius.be

Office: 0032 (0)5123 2090

Mobile: 0032 (0)4795 79950

Shanks NL

Jan Thewissen

E-mail: jan.thewissen@shanks.nl

Office: 0031 (0)174219900

Mobile: 0031 (0)6205 95322

Shanks UK

Geoff Smallwood

E-mail: geoff.smallwood@shanks.co.uk

Office: 0044 (0)1908 650578

Mobile: 0044 (0)7836 749865

4. CR performance indicators

4a. Environment – climate change emissions

1. Process based emissions (emissions from waste management processes)

Landfill gas emissions from Shanks landfill sites	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Emissions are CO₂ emitted from the combustion of collected landfill gas in a flare or engine and landfill gas (CO₂ and CH₄) emitted from the passive venting of collected gas or passively emitted from the surface of the landfill ✓ If a methodology for calculating the emissions for a landfill site already exists (e.g. a method agreed with the regulator for regulatory reporting, this should be used. Otherwise, GasSim (model used in UK for regulatory reporting) should be used ✓ If use of GasSim software is limited to subscribed users, Ray James (UK Technical Adviser), to advise of input data required and Ray to run model for each site ✓ Emissions should be reported for all operational landfill sites and for any closed landfills where we still actively manage the gas
Green waste composting emissions from Shanks operations	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Green waste composting. Multiply tonnes of green waste composted by conversion factor to get CO₂ equiv. (tonnes) – see appendix 1 for conversion factors ✓ Note – green waste composting only – other composting to be calculated as for MBT, AD etc
Other process emissions from Shanks operations, such as MBT, AD etc	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Such processes will include MBT, mixed waste composting, anaerobic digestion. Technology specific calculations required; Ray James (UK Technical Adviser) to peer review approach taken for different operations across the Group ✓ All of the above to be reported as one figure covering all MBT, AD etc operations ✓ Include a description of the process alongside the data to clarify type of process ✓ See appendix 1 for conversion factors

2. Transport based emissions

Fuel use – Shanks waste collection and transport vehicles	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ All waste and recyclable materials collection, transfer, etc. transport movements by road by Shanks vehicles. This could be to our own facilities or to 3rd party facilities. Where we have contracted a third party to undertake transport on our behalf, this should be excluded (only Shanks vehicles to be included) ✓ Includes any diesel, petrol, LPG, biodiesel, etc. used ✓ Multiply litres of fuel consumed by relevant conversion factor to get CO₂ equiv. (tonnes) – see appendix 1 for conversion factors
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Fuel use – Shanks waste collection and transport vehicles – continued...	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Vehicles operated for business purposes but which do not carry waste (such as cars and light vans) should not be included in this indicator (see below) ✓ CO₂ emissions from boat/train used to transport wastes should not be reported as these are operated in all cases by third parties rather than Shanks
Fuel use – Shanks cars and vans (business travel by road)	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Indicator not to be reported because emissions are less than 1% of total emissions (company car fuel use emissions were 0.4% of total emissions in 2007/08) ✓ Review to be undertaken in 2011/12 to establish whether emissions are still low

3. Energy use based emissions

Electricity used at sites and in offices	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ All electricity used at sites and in offices should be included. Includes electric motors etc in recycling and other operations, electric/gas heating, general electricity usage etc ✓ Multiply electricity consumed (kWh) by relevant conversion factor (country-specific factors to be used) to get CO₂ equiv. (tonnes) – see appendix 1 for conversion factors ✓ Electricity generated from renewable sources on- site and used on site (other than parasitic usage) should be reported separately so this can be reported appropriately ✓ Imported electricity from renewable sources should be reported separately so that a different conversion factor can be used ✓ If Combined Heat and Power is used this needs to be addressed separately
Gas used at sites and in offices	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Multiply amount of gas consumed (kWh) by conversion factor to get CO₂ equiv. (tonnes) – see appendix 1 for conversion factor ✓ Emissions from gas consumption to be reported separately from electricity consumption
Fuel used on sites and in offices	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Includes fuel used in heavy mobile and static plant, oil heating etc ✓ Multiply litres of fuel consumed by relevant conversion factor to get CO₂ equiv. (tonnes) – see appendix 1 for conversion factors ✓ If Combined Heat and Power is used this needs to be addressed separately

4. Gross total emissions from significant sources

Gross total of all above emissions	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Total of 1 (process emissions), 2 (transport emissions) and 3 (energy use emissions) to give Shanks total carbon emissions expressed as CO₂ equivalent tonnes
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The above total represents Shanks emissions. Below are avoidance indicators: That is Shanks activities, such as recycling and recovery and the production of various 'fuels' have a carbon benefit in that they avoid an amount of carbon emissions compared with the fuel or material they are displacing. For example, metals separated for recycling and passed to a processor emit less CO₂ equivalent tonnes than producing the same metal from raw ores. Likewise waste derived fuels may displace fossil fuels such as coal in a cement kiln so reducing CO₂ equivalent tonnes emissions.

4b. Environment – climate change ‘avoidance’

5. Landfill and other ‘gas-use’ based renewable energy ‘avoidance’ to above carbon data

Landfill gas power generation	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Comparison used is CO₂ emissions avoided from average grid electricity generation ✓ Multiply amount of electricity generated (kWh) by relevant conversion factor (country-specific conversion factors to be used) to get CO₂ equiv. (tonnes) – see appendix 1 for conversion factors ✓ Report electricity generated and used elsewhere on site and electricity generated and sold to national grid <u>separately</u>. ✓ Exclude parasitic electricity consumption (electricity generated and consumed in the generation of the electricity).
Anaerobic digestion power generation	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Comparison used is CO₂ emissions avoided from average grid electricity generation ✓ Multiply amount of electricity generated (kWh) by relevant conversion factor (country-specific factors to be used) to get CO₂ equiv. (tonnes) – see appendix 1 for conversion factors ✓ Report electricity generated and used elsewhere on site and electricity generated and sold to national grid <u>separately</u>. ✓ Exclude parasitic electricity consumption (electricity generated and consumed in the generation of the electricity).

6. Waste derived fuels based renewable energy ‘avoidance’ to above carbon data

Waste derived fuels produced and sold	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Including icopower pellets, woodchips for biomass incineration, SRF from MBT, etc ✓ Only materials going to production processes to be included. Incineration not included ✓ Emissions avoided to be calculated based on calorific value of fuel, what process it is used in and what fuel it replaces ✓ See appendix 1 for conversion factors
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7. Recycling based potential ‘avoidance’ to the above carbon data

Amount of various waste types recycled	CO ₂ equivalent tonnes	<ul style="list-style-type: none"> ✓ Each waste type recycled to be reported separately ✓ Tonnes of waste separated for recycling x relevant conversion factor for each waste type – see appendix 1 for conversion factors
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The above sections (1 – 7) represent Shanks carbon ‘footprint’

4c. Environment – other indicators

8. Water consumption

Amount of water used at Shanks sites	Cubic metres (tonnes)	<ul style="list-style-type: none"> ✓ Potable (drinking water/mains supply), groundwater, surfacewater, rainwater, etc to be reported ✓ Report each type of water separately
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9. Waste and resources

Electricity used at sites and in offices	Kilowatt hours	<ul style="list-style-type: none"> ✓ As for section 3 above under energy use based emissions, but expressed as raw consumption data in kilowatt hours
Gas used at sites and in offices	Cubic metres	<ul style="list-style-type: none"> ✓ As for section 3 above under energy use based emissions, but expressed as raw consumption data in cubic metres used
Fuel used on sites and in offices	Litres	<ul style="list-style-type: none"> ✓ As for section 3 above under energy use based emissions, but expressed as raw consumption data in litres used
Fuel use – Shanks waste collection and transport vehicles	Litres	<ul style="list-style-type: none"> ✓ As for section 2 above under transport use based emissions, but expressed as raw consumption data in litres used
Total waste handled at Shanks sites (all sites but NOT transport). NOTE – this data is effectively materials used by Shanks	Tonnes	<ul style="list-style-type: none"> ✓ Total waste handled by Shanks sites whether collected by Shanks or by third parties, but not wastes collected/transported by Shanks to third party sites. That is the total amount of waste in tonnes accepted at all types of Shanks site ✓ Total waste handled is also used in the ‘Shanks at a glance’ table (see 17 below) to give an indication of the size of the company’s operations ✓ Tonnes of waste handled for Shanks is equivalent to materials used for many other companies (such as production companies). Other materials used, other than wastes, are a minor proportion of Shanks materials usage and are not reported here ✓ Tonnes waste transported are reported on in ‘Shanks at a glance’ table (17 below)
Amount waste recycled and recovered at Shanks sites	Tonnes	<ul style="list-style-type: none"> ✓ All materials separated for recycling/re-use/recovery (e.g. paper, plastics, metal, green waste, solvents, aggregates, soil, etc.) to be reported from all types of facilities undertaking recycling/recovery activities ✓ For recycling plants only those materials that are to be re-used/sent to re-processors are to be included (i.e. not the total received at a recycling facility only that portion which is recycled)

Amount waste recycled and recovered at Shanks sites. Continued...	Tonnes	<ul style="list-style-type: none"> ✓ For recovery operations (such as MBT, AD etc) only that material re-used/sent to a secondary use are to be included (i.e. not the total received at a recovery facility only that portion which is recovered) ✓ Recycling tonnages as above to be separated by waste type as required to calculate potential carbon avoidance as per 7 above on carbon avoidance (recycling based potential avoidance) ✓ Aggregated Group figures for waste types recycled/recovered to be presented in a graph
Proportion of total waste handled recycled/recovered	Percentage of total waste handled	✓ Percentage of wastes received at Shanks sites (all types of site) which are recycled or recovered. See below calculation and notes

Calculation of % of waste recycling/recovered by Shanks

$$\frac{\text{Total waste accepted at Shanks sites (tonnes) whether collected by Shanks or third parties – waste sent to landfill or incineration (tonnes)}}{\text{Total waste handled (that is accepted at) at Shanks sites (tonnes) whether collected by Shanks or by third parties}} \times 100 = \% \text{ waste recycled and recovered}$$

Notes

- ✓ For wastes accepted at Shanks landfill sites the % recycled or recovered is zero

4d. Management systems and compliance

11. Management systems

Number sites/operations certified to recognised management systems	Number of sites	✓ Report number of sites certified to ISO14001, EMAS, ISO9001, OHSAS18001, VCA, etc. Specify number of sites certified to each standard separately
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12. Compliance

Number environmental convictions and fines	Number convictions/ fines	✓ Convictions (cases where the company goes to court) and significant administrative fines (such as those that can be received in Belgium and the Netherlands) to be reported
Details of environmental convictions and fines	Penalty in £/Euros	✓ Report date of offence, date of prosecution/fine, company concerned, nature of offence and amount of fine
Number of health and safety convictions and fines	Number convictions/ fines	✓ Convictions (cases where the company goes to court) and significant administrative fines (such as those that can be received in Belgium and the Netherlands) to be reported
Details of health and safety convictions and fines	Penalty in £/Euros	✓ Report date of offence, date of prosecution/fine, company concerned, nature of offence and amount of fine
Other convictions and fines	Number convictions/ fines	✓ Legal actions for anti-competitive behaviour, anti-trust and monopoly practices
Details of other convictions and fines	Penalty in £/Euros	✓ Report date of offence, date of prosecution/fine, company concerned, nature of offence and amount of fine
Percentage and total number of business units analysed for risk related to bribery and corruption	Number of operations and % of operations	<ul style="list-style-type: none"> ✓ Number of operations which have undergone risk assessment for bribery and other similar risks to identify higher-risk areas ✓ % of operations which have undergone risk assessment for bribery and other similar risks to identify higher-risk areas

4e. Employee well-being and business ethics

13. Employee workplace injuries

Total employee lost-time injuries	Number total lost time injuries	✓ Total number of lost time injuries (> 1 days absence from work)
Total employee lost-time injury rate	Rate per 100,000 employees	✓ Total number of lost time injuries (> 1 days absence from work) / number of employees x 100,000
Employee RIDDOR reportable injuries	Number RIDDOR injuries	✓ Number of RIDDOR employee injuries (> 3 days absence from work)
Employee RIDDOR injury rate	Rate per 100,000 employees	✓ Number of RIDDOR employee injuries (> 3 days absence from work) / number of employees x 100,000 (standard rate)
Employee lost-time (non-RIDDOR) injuries	Number lost time non-RIDDOR injuries	✓ Number of lost time non-RIDDOR employee injuries (> 1 days absence but < 3 days absence from work)
Employee lost-time (non-RIDDOR) injury rate	Rate per 100,000 employees	✓ Number of lost time non-RIDDOR employee injuries (> 1 days absence but < 3 days absence from work) / number of employees x 100,000

14. Absence through illness and injury

Total employee absenteeism from work	% of available days	✓ Number of days lost because of illness and injury / total number of days worked x 100
Work related absenteeism from work	% of available days	✓ Number of days lost as the result of workplace injury or illness (such as the above lost time injuries) / total number of days worked x 100
Non-work related absenteeism from work	% of available days	✓ Number of days lost as the result of non-work related injury or illness (such as sports injuries, flu and other non-work related conditions) / total number days worked x 100
Average duration of employee absence	Days	✓ Total number of days lost because of illness and injury / number of employees who were ill or injured
Average frequency of absence	Number of absence periods	✓ Total number of absence periods of whatever length / total number of employees
Employees with more than 2 absence periods	% of workforce	✓ Number of employees who had more than 2 absence periods / total number of employees x 100
Employees with zero absence days	% of workforce	✓ Number of employees which zero absence periods / total number of employees x 100

15. Staffing, employee retention and training		
Total number permanent employees	Number employees	<ul style="list-style-type: none"> ✓ Total number of all employees, but not including temporary workers ✓ Report as annual average: figure at 1st April + figure at 31st March ÷ 2
Number of operational employees	Number employees	<ul style="list-style-type: none"> ✓ Number of operational ('blue-collar') employees, such as operators, lorry drivers, mobile plant drivers etc ✓ Report as annual average: figure at 1st April + figure at 31st March ÷ 2
Number of admin, support etc employees	Number employees	<ul style="list-style-type: none"> ✓ Number of non-operational ('white collar') employees, such as managers, support staff, administration staff etc ✓ Report as annual average: figure at 1st April + figure at 31st March ÷ 2
Number male permanent employees	Number employees	<ul style="list-style-type: none"> ✓ Number of male employees (all types) ✓ Report as annual average: figure at 1st April + figure at 31st March ÷ 2
Number female permanent employees	Number employees	<ul style="list-style-type: none"> ✓ Number of female employees (all types) ✓ Report as annual average: figure at 1st April + figure at 31st March ÷ 2
Age profile	Number of employees by age groups	<ul style="list-style-type: none"> ✓ Number of permanent employees split into the following age categories: <ul style="list-style-type: none"> <25 years old, 25 to 34 years old, 35 to 44 years old, 45 to 54 years old, 55 to 59 years old, >60 years old ✓ Report as annual average: figure at 1st April + figure at 31st March ÷ 2
Number full-time permanent employees	Number employees	<ul style="list-style-type: none"> ✓ Number of full time permanent employees (all types) ✓ Report as annual average: figure at 1st April + figure at 31st March ÷ 2
Number part-time permanent employees	Number employees	<ul style="list-style-type: none"> ✓ Number of part-time permanent employees (all types) ✓ Report as annual average: figure at 1st April + figure at 31st March ÷ 2
Permanent employee turn-over	% replacement over year	<ul style="list-style-type: none"> ✓ Number of employees replaced during the year / total average number of employees x 100
Average number of years service	Years	<ul style="list-style-type: none"> ✓ Average number of years served with Shanks for current employees. Total number of years worked for Shanks by all current employees / total number of current employees
Number training days per permanent employee	Days per employee	<ul style="list-style-type: none"> ✓ Estimate only. Include "Toolbox Talks" etc as training

4f. Wider community

16. Neighbourliness

Number of environmental complaints received	Number complaints received	<ul style="list-style-type: none"> ✓ Number of complaints received from any third party relating to an environmental issue (can be reported direct or via a regulator). Include substantiated and unsubstantiated complaints ✓ If a site has received a particularly high number of complaints, specify the cause of the problem and what corrective action has been taken
Average number of complaints per site	Number per site on average	<ul style="list-style-type: none"> ✓ Total number of complaints / number of operating centres
Details of complaints made by type	Number of various types of complaints	<ul style="list-style-type: none"> ✓ Split into the following categories (numbers for each category required): <ul style="list-style-type: none"> Odour Litter Vermin (flies, birds, rats etc) Traffic (mud on the road, numbers of lorries etc) Noise Dust Others

4g. Shanks at a glance data (collected for Group financial report CR section)

17. Scope of company data

Note much of the below data is already included as above. The 'Shanks at a glance' data section is simply to show the extent of the Group and to give an indication of the size of its activities. Where data is already included above this is noted next to the indicator. This 'Shanks at a glance' data is also used in the Group annual financial report.

Number of permanent employees	Number employees	✓ As already reported as above under 15
Number active operating centres	Number operating sites	✓ Not including offices, and other non-operational sites such as closed sites
Number operating recycling or recovery centres	Number recycling and recovery plants/sites	✓ All recycling and recovery operations
Number operational landfill sites	Number sites	✓ Number of operational landfill sites – not including closed landfill sites
Number waste collection and transport lorries	Number vehicles	✓ Number of waste collection commercial vehicles (not including light vans etc)
Amount of waste collected and/or transported	Tonnes	✓ Amount of waste collected or transported by Shanks commercial vehicles whether taken to a Shanks site or to a third party site – that is all waste collected/transported
Amount of waste handled at Shanks sites	Tonnes	✓ Amount of waste handled at Shanks sites whether collected by Shanks or third parties (that is total waste accepted at Shanks sites) but NOT including wastes collected by Shanks and taken to a third party site (as above under section 9)
Amount waste recycled or recovered	Tonnes	✓ Already reported as above under 9 – total amount of waste recycled or recovered at Shanks sites expressed as tonnes
Overall recycling and recovery rate	% of above	✓ As calculated already under section 9 above
Renewable energy generated by Shanks operations	Megawatt hours	✓ For example electricity generated by landfill gas power stations, AD power generation etc

Version 3 – 6 May 2011

Appendix 1

Carbon conversion factors

Source of emissions	Unit of measurement	Conversion factor to convert to tonnes of carbon dioxide equivalents			
		NL	BE	UK	Canada
1. EMISSIONS					
Transport based emissions					
Diesel for road transport	litres	0.002583 ¹	0.0026694 ⁸	0.0026694 ⁸	-
Petrol	litres	0.002221 ¹	0.0023307 ⁸	0.0023307 ⁸	-
LPG	litres	0.001495 ²	0.0014968 ⁸	0.0014968 ⁸	-
Biodiesel	litres	conversion factor depends on exact fuel type; conversion factor to be sought from manufacturer – ask your country contact			
Energy use emissions					
Electricity	kWh	0.000592 ²	0.0002673 ⁸	0.00054418 ⁸	0.00017
Gas	see individual column	0.001775 ² (m3)	0.00018396 ⁸ (kWh)	0.00018396 ⁸ (kWh)	-
Diesel used on sites	litres	0.002583 ¹	0.0026694 ⁸	0.0030289 ⁸	0.002633
Other fuels		conversion factors for other fuels, including alternative fuels, are available – ask your country contact			
2. POTENTIAL AVOIDED EMISSIONS					
Waste derived fuels produced and sold					
Icopower pellets	tonnes	0.804	-	-	-
Woodchips/Wood for biomass incineration	tonnes	0.075	1,088917 ¹²	-	-
Wooddust for biomass incineration	tonnes	-	1,795025 ¹²	-	-
SRF from MBT used in cement kilns	tonnes	-	1,532932 ¹²	1.01426	-

Non dangerous sludge used in cement kilns	tonnes	-	0,469843 ¹²	-	-
Dangerous sludge used in cement kilns	tonnes	-	0,363036 ¹²	-	-
Non dangerous impregnated sawdust	tonnes	-	1,237843 ¹²	-	-
Dangerous impregnated sawdust	tonnes	-	1,203849 ¹²	-	-

Materials separated for re-use/recycling					
Aggregates	tonnes	0.0072	0.0001 ⁹	0.0001 ⁹	-
Silt/soil	tonnes	-	0.0001 ⁹	0.0001 ⁹	-
Metals (ferrous)	tonnes	1.5930 ³	1.487 ¹⁰	1.487 ¹⁰	-
Metals (non-ferrous)	tonnes	6.9520 ³	12.7 ⁹	12.7 ⁹	-
Wood	tonnes	-	0.0479 ⁹	0.0479 ⁹	-
Woodchips (to chipboard industry)	tonnes	0.1490	-	-	-
Plastics	tonnes	3.4530 ⁶	1.55 ¹¹	1.55 ¹¹	-
Glass	tonnes	0.3240 ⁶	0.253 ¹⁰	0.253 ¹⁰	-
Paper/cardboard	tonnes	0.6760 ⁷	0.45 ⁹	0.45 ⁹	-
Textiles	tonnes	3.4320 ⁶	1.34 ⁹	1.34 ⁹	-
Compost (from greenwaste)	tonnes	0.1260 ⁴	0.0039 ⁹	0.0039 ⁹	-
Compost for agriculture	tonnes	0.0635 ⁵	-	-	-
Compost for garden centres	tonnes	0.255 ⁵	-	-	-
Compost for potting soil	tonnes	0.275 ⁵	-	-	-
Compost for greenhouse cultivation	tonnes	0.298 ⁵	-	-	-
Digestate	tonnes	-	0.0635 ⁵	-	-

Sources of carbon conversion factors

1. Royal Haskoning calculated 2010 using STREAM 2008, ACEA 2002 and BUWAL 2009
2. Senter Novem: Protocol monitoring duurzame energie 2007. For electricity and natural gas, the conversion factor does not take into account transport losses during transmission.
3. Royal Haskoning calculated 2010 using data EAA 2003 and World Steel Association 2008
4. CE Delft: Afvalverwerking en CO₂ 2006 (maximum assumption)
5. IVAM and Dutch Waste Management Association, CO₂ tool kitchen and garden waste 2007

6. Senter Novem 2007: CO₂-kentallen Afvalscheiding
7. CE Delft: Milieukentallen van verpakkingen voor de verpakkingenbelasting in Nederland 2007
8. 2009 Guidelines to DEFRA/DECC's Greenhouse Gas Conversion Factors for Company Reporting (Note: these guidelines have since been updated and some of the conversion factors have changed. However, we will continue to use the 2009 factors for the next few years to allow comparison between years without needing to re-calculate the figures each year.) For electricity, the conversion factor includes transmissions and distribution losses.
9. Carbon Balances and Energy Impacts of the Management of UK Wastes, ERM December 2006
10. Waste management options and climate change, AEA Technology for DG Environnement 2001
11. CO₂ impacts of transporting the UK's recovered paper and plastic bottles to China, WRAP August 2008
12. Avoided emission factors were calculated on basis of the substitution effect on other carbon sources, using Conversion Factors of the DEFRA/DECC's 2009 and the Bilan Carbone de L'ADEME, 2011.

Notes

The waste recycled conversion factors have been chosen from a number of sources as the best available figures. However, their use is treated with care; what has been included and excluded should be considered (for example, a conversion factor for emissions avoided by paper recycling may take into account emissions associated with sorting the paper but we have already accounted for this in our site energy usage). Full life cycle assessment (LCA) figures will not correlate directly with our operational emissions data as we have not taken an LCA approach.