

Composition of kerbside and HWRC bulky waste



Research to determine the composition and re-use potential of bulky waste entering household waste recycling centres and collected via kerbside bulky waste services.

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Front cover photography: Disposing of bulky waste

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Executive summary

The purpose of this research was to understand the composition of bulky waste in terms of item type and re-use potential, in order to enable WRAP to identify the barriers to, and opportunities for, the re-use of bulky items across the UK.

Call log data from local authority contact centres were analysed and fieldwork undertaken to determine the arisings and composition of bulky items both set out at the kerbside for collection and taken to Household Waste Recycling Centres (HWRCs).

All items of bulky waste were recorded, including Waste Electrical and Electronic Equipment (WEEE), textiles and furniture, using the legal definition of bulky waste. As such only items that were not able to fit into a wheeled bin were included. However analysis of kerbside bulky waste call log data showed that some of these non-bulky items were set out as part of kerbside bulky waste collections, and would have been recorded as part of bulky waste collections in WasteDataFlow (WDF).

Due to significant variations in items collected as bulky waste by local authorities a standardised and detailed category list for bulky items was applied throughout the study, with different levels of categorisation in terms of Themes, Categories and Items.

Methodology: Bulky items set out for collection at the kerbside

Eleven local authorities were selected as being representative of the UK in terms of household size, level of deprivation and population density. The local authorities provided contact centre call log data for between September and November 2011. The local authorities also provided corresponding postcodes and item types for all collections. In total data sets were analysed for 9,637 items which were collected from 3,971 householders which identified the composition of the bulky waste collection scheme.

The Furniture Reuse Network (FRN) list of average weights (2009) was used to attribute a weight to each item. Average weights were used if it was unclear from the data as to the type of item i.e. whether a bed was single, double or king-sized. The data was also profiled using ACORN – a geo-demographic tool used to understand populations.

The call log data however did not provide any information on the re-use potential of the items collected at the kerbside. Therefore 100 collection vehicle loads of kerbside bulky waste collections were analysed as part of the fieldwork, as they tipped at HWRCs or Waste Transfer Stations (WTSs). These vehicles tipped a total of 1,184 items across eight sites. FRN average weight data was again applied to each item and surveyors assessed the re-use potential of each item.

Methodology: Bulky items taken to HWRCs

A survey of householders delivering items to HWRCs was conducted at 14 sites between February and March 2012. The sites were selected so as to be broadly representative of HWRCs nationally. In total 5,776 householders, taking 12,470 items were surveyed. They were also asked to provide their postcode in order to enable ACORN profiling; and FRN average weight data was applied to each item.

The item was assessed for its re-use potential from the householders' point of view initially (through survey questions) and a separate assessment of re-use potential was then subsequently carried out by the surveyor through a visual inspection. Soft furniture was also

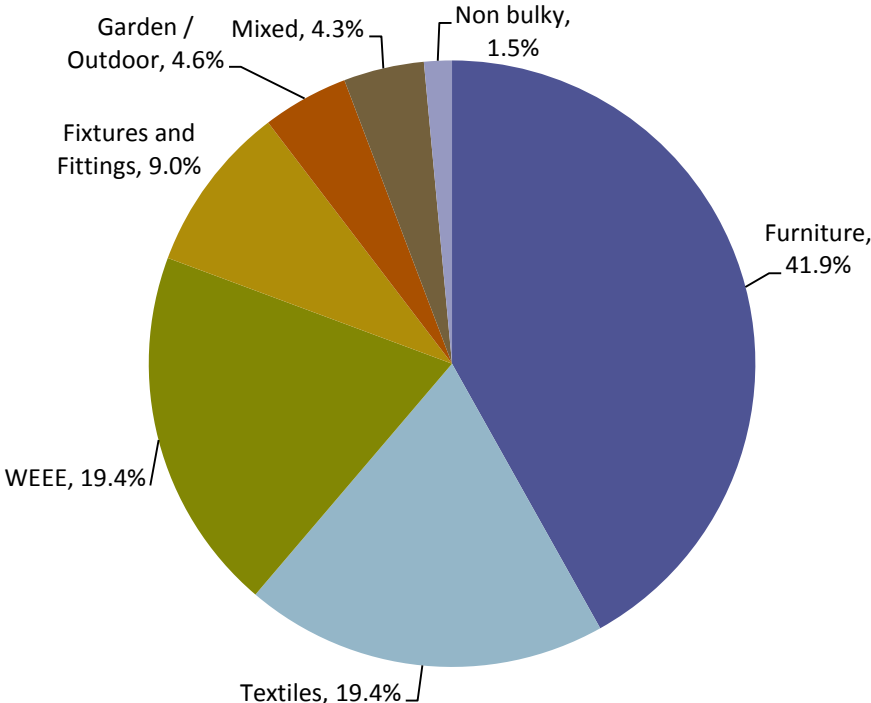
assessed for soiling and the presence of fire safety labels. The condition of cables and presence of plugs was assessed for electrical items. It was not possible to conduct any Portable Appliance Testing (PAT) of the electrical items, which introduces a significant level of error margin to this study’s assessment of the re-use potential of electrical items.

Findings and Key Calculations

National estimates derived from WasteDataFlow (WDF) suggest that across the UK during 2010/11, some 1,590,000 tonnes of bulky waste is collected at the kerbside or taken to HWRCs. Approximately twice as much is taken to HWRCs (1,050,000 tonnes) than is collected at the kerbside (540,000 tonnes). Although these estimates are considered to be the most reliable national estimates for household bulky arisings to have been produced to date, there is still some uncertainty around these figures. In particular this is due to local authorities’ not consistently recording kerbside collected bulky items separately in WDF.

Using the above data and extrapolating the sample findings across all UK kerbside and HWRC bulky waste collections suggests that of all bulky waste in the UK, (including both kerbside collected and HWRC bulky items), around 42% consists of furniture, 19% textiles and 19% WEEE (see Figure E1). It is worth noting that for the purposes of this study, textiles include mattresses and WEEE does not include items ‘taken back’ by retailers. These estimates equate to 670,000 tonnes of furniture and 310,000 tonnes each of textiles and WEEE disposed by householders in the UK annually.

Figure E1: Average UK composition, by theme for kerbside bulky waste collections and HWRCs



The ACORN profiling of bulky waste collections revealed that more ACORN category 2 ‘Urban Prosperity’ and ACORN category 5 ‘Hard Pressed’ households set out non-bulky items, with more ACORN category 2 households setting out textiles (mainly carpets and mattresses) and more ACORN category 1 ‘Wealthy Achievers’ households setting out WEEE. Similar proportions of furniture were set out by all households.

The range of bulky items set out for collection at the kerbside is narrower than that which is taken to HWRCs. This is likely to reflect both the nature of local authority collection policies (many do not collect DIY-type waste) and the difficulty of transporting large items, such as sofas and mattresses, to the HWRC. Unsurprisingly, sofas and mattresses are the most common bulky items set out for collection at the kerbside.

By numbers of items, the most common bulky items taken to the HWRC are televisions, wardrobes and carpets. In terms of weight, more WEEE and fixtures and fittings are taken to the HWRC than are set out for collection at the kerbside.

Bulky items taken to the HWRC were assessed for re-use potential. 36% of householders assessed their bulky items as being re-usable. The surveyors estimated that across all themes 32% (by weight) of bulky items were re-usable in their current condition: slightly lower than the estimate of the householders. However, this increased to 51% if items requiring slight repair but in otherwise good condition were taken into account. Householders were also asked if the item had been dismantled or broken for transportation to the HWRC. 79% claimed that their items were in the same condition before being brought to the site.

The fieldwork also assessed the re-use potential of bulky items collected at the kerbside. Across all themes in all of the local authority areas 24% of bulky items collected at the kerbside were assessed as re-usable, with a further 16% assessed as re-usable with slight repair. Almost one quarter of the WEEE and furniture collected at the kerbside is re-usable. These themes include items that are in demand second-hand, so it is interesting to note that even post-collection (with many items likely to have been subject to weather damage) almost 25% the collected waste was considered re-usable.

Sofas, armchairs, sofa-beds, fabric beds and headboards were also assessed for soiling. One quarter was described as very clean and a further third as fairly clean with slight soiling. This suggests that 58% of such items could be considered 'clean' and that on average three to four clean sofas are disposed of from every HWRC every week.

These items were also assessed for the presence of fire labels. 50% each of armchairs and fabric beds still had fire labels attached. 33% of headboards, 63% of sofas and 64% of sofa-beds still had fire safety labels attached. There was no correlation between cleanliness and presence of fire labels.

WEEE was also assessed for the condition of cables and presence of plugs. 79% of all WEEE taken to the HWRC by householder had both a cable and a plug present, although it should be noted that PAT testing of electrical items was not carried out for this study.

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1.0 Introduction

WRAP undertook this work with the aim of understanding the composition in terms of item type and re-use potential to identify re-use opportunities across the UK. This report presents findings from fieldwork and call log data analysis regarding the arisings and composition of bulky items disposed of by householders via kerbside collections and at Household Waste Recycling Centres (HWRCs).

The research investigated bulky waste collected at the kerbside by local authority bulky waste collections (either in-house, or by a waste management company or third sector organisation) and bulky waste that enters HWRCs. Although bulky waste data is logged within Defra WasteDataFlow, local authorities are not required to identify what products make up this waste stream. Composition data previously available for bulky waste collections at the kerbside or that are disposed and recycled at HWRCs is not very comprehensive, consistent or up to date. The quality of bulky waste data has impacts for WRAP when identifying barriers and opportunities relating to increasing the re-use of bulky items. The data collected through this project will be used to identify opportunities for the re-use of bulky waste across the UK to feed into and update WRAP's Benefits of Re-use Model (BORT). BORT uses extensive amounts of information to create mass flows at both a material and product level.

A scarcity of existing data meant that primary data gathering was required to understand the products arising in bulky waste at the kerbside and HWRC, and importantly, the re-use potential of those items.

Three different research methods were therefore used in this project, involving analysis of:

- Call centre logs for bulky waste kerbside collections
- Local authority collected kerbside bulky items disposed or recycled at HWRCs or waste transfer stations, and
- Household bulky items delivered to HWRC's by individuals.

2.0 Background

Primary target materials for WRAP are WEEE, textiles and furniture. However, this project recorded all bulky items regardless of whether it was a WRAP priority material or not. For the purposes of this study the legal definition¹ of bulky waste was used.

The legal definition of “bulky waste” is:

- any article of waste which exceeds 25 kilograms in weight; and/or
- any article of waste which does not fit, or cannot be fitted into:
 - (a) a receptacle for household waste provided in accordance with section 46 of the Environmental Protection Act 1990; or
 - (b) where no such receptacle is provided, a cylindrical container 750 millimetres in diameter and 1 metre in length.

This means that if small lengths of wood or off-cuts of carpet that could fit into a wheeled bin were brought to the HWRC, they were not recorded as bulky waste. However the call centre data obtained for this project revealed that many local authorities collect some non-bulky items during the same collection service. Therefore the non-bulky element is included in the tonnages reported as bulky waste from the kerbside.

There is large variation in the type of items that can be set out for bulky waste collections or brought onto household waste and recycling centres (HWRCs). Therefore WRAP and Resource Futures agreed a category list, which was used to develop the survey and is reported against within the results of the report. Each item was assigned a “Theme” and “Category”, which will allow WRAP to easily manipulate the data in future and ensure consistency between this and other projects. The final category list is included in Appendix 1.

¹ Controlled Waste Regulations 1992 and Controlled Waste Regulations Northern Ireland 2002.

3.0 Methodology

The main purpose of this research was to understand the composition of bulky waste in terms of item type and potential for re-use. Only bulky waste collected from the kerbside or taken to HWRCs was included. Multiple methods and data channels were used to compile a bulky waste composition for the UK as follows:

1. Kerbside bulky items (data included WasteDataFlow, call centre logs and analysis of kerbside collected bulky waste).
2. HWRC bulky items (data included WasteDataFlow and on-site surveys and item analysis)

Prior to commencing the data gathering and analysis as listed above, a small scoping study was undertaken to ensure all existing studies were included in the research, and to ensure the project was not duplicating any other work. To do this an open call was undertaken to request any bulky waste compositional studies conducted since 2008 from or for any local authorities. The open call was promoted through the WRAP ezine and also as a discussion thread on LinkedIn.

The open call for information was sent to local authorities by WRAP and Resource Futures in December 2011 and January 2012. Unfortunately this did not result in many studies being submitted for use, although did result in numerous local authorities coming forward that are willing to support the study.

Since no new studies were identified as part of the open call detailed above, additional research was undertaken to complete a bulky compositional analysis for kerbside collected items, and also those taken to the HWRC's. The combination of both the kerbside and HWRC datasets were then used to formulate an average UK bulky waste composition.

Local authorities were chosen depending on their fit within the sampling matrix (see Section 3.1). For any areas where a local authority had not volunteered, Resource Futures emailed suitable local authorities and invited them to participate. The local authorities that participated have been acknowledged at the beginning of this report. The results however have been made anonymous.

3.1 Bulky waste kerbside collections: call centre logs

The main purpose of this phase of the research was to identify the composition of the kerbside collected bulky waste. Call centre log data was seen as a cost effective way of analysing a large amount of data in a short space of time and offering minimal disruption to collection crew and householders.

11 local authorities in total supplied call log details for bulky waste collections for the period of September to November 2011. Local Authorities were selected on the basis of level of deprivation and population density to ensure they represented the UK population. Consideration was also given to collection frequencies and attempt was made to reflect a mix of charging policies (see tables 1 and 2 below for more details). Local Authorities that also came forward as part of the open call were given selection preference. Table 1 shows how the sample of 11 local authorities matches key demographic data for the UK. It is not an exact match, because a number of local authorities approached were unable to provide data in sufficient detail and therefore an alternative was found.

Table 2 shows that the sample is representative of the UK in terms of household size and level of deprivation. The sample is also fairly representative in terms of population density,

particularly when the huge range in population densities between different authorities in the UK is taken into account.

The selected local authorities also represent a mix of kerbside bulky waste policies, particularly in terms of providing free or charged collections, as shown in Appendix 2. However the kerbside bulky waste collection policies for local authorities nationally is not known and therefore it is not possible to specify the degree to which the selected local authorities are representative of local authorities nationally in terms of kerbside bulky waste collection policy.

The majority of local authorities providing call log data for use in this study are from England. **Table 2** shows the type of authority, region, description and number of households within the authority in 2010. There is a slight bias towards the south east because this area has a higher proportion of the population than elsewhere.

The table also lists the number of months of call log data used in this study, which is dependent upon the number of collections performed per month. This figure has subsequently been multiplied to estimate a total annual weight and corresponding weight per household per year in each local authority for reader interest. However it is important to note that this method of grossing up is likely to be inaccurate, particularly as this approach cannot account for seasonal variations in bulky waste pickups at the kerbside.

As such the above method has only been used to demonstrate national estimated tonnages in Table 2 and an alternative more accurate method for grossing up national estimates for kerbside bulky waste composition has been applied within all other tables and results within this report. The method used and any calculations and assumptions are clearly described in all relevant sections (for the main methods used within this study see Section 4).

Table 1: Coverage assessment for BWC call log data

	Sample	UK
Percentage of local authorities with fortnightly kerbside residual collections	36.4%	49.8%
Inhabitants per household	2.28	2.35
Inhabitants per hectare	5.87	2.34
Percentage population Social Grade D or E (2001 Census)	31.2%	32.6%

Table 2: Local Authorities providing bulky waste collection call log data and estimated weight of waste collected

Country	Authority Type	Region	Description	No. households in 2010	No. Months call log data	Multiplier to produce annual estimates	Estimated weight of waste collected from call log data (kgs)	Estimated annual weight from call log data (tonnes)	Corresponding kg/hh/yr
Wales	Unitary	WALES		137,982	1	12	22,076	265	1.92
England	Collection	South East	Coastal and Countryside	50,017	3	4	19,070	76	1.53
England	Collection	London	London Centre	81,277	1	12	25,696	308	3.79
England	Collection	South East	Regional Centres	41,681	2	6	34,093	205	4.91
England	Collection	South East	Prospering Smaller Towns	43,765	2	6	8,802	53	1.21
England	Unitary	Yorkshire & Humber	Manufacturing Towns	71,899	2	6	28,860	173	2.41
England	Unitary	North East	Industrial Hinterlands	91,697	1	12	38,212	459	5.00
England	Unitary	South West	Prospering Smaller Towns	61,479	3	4	13,004	52	0.85
England	Collection	South East	Prospering Southern England	27,092	3	4	17,517	70	2.59
England	Unitary	South West	Prospering Smaller Towns	110,453	1	12	28,955	347	3.15
England	Collection	North West	Industrial Hinterlands	78,151	0.094	127.44	28,998	3,696	47.29

As some Local Authorities undertake more collections than others, either three months data or a minimum of 400 collection records were analysed. Local authorities were requested to supply postcodes and item types for all collections performed within the time period. In total, 9,637 items were collected from 3,971 residents. In some areas, very few collections took place (for example 180 per quarter), in other areas, this number of collections could take place per week.

Each local authority was given a unique code and each household was given a unique reference number. The local authority call log spread sheets were rigorously cleansed to list each different item collected from a household on a separate row and using an item name that appears within the category list in Appendix 1. If more than one of the same item was collected, for example four dining chairs, the item was listed as 'chair' and the number four listed in a multiplier column. Any item which was not a bulky item was either recorded as non-bulky or, if it was an electrical item, within the appropriate WEEE category. Once each item had been appropriately summarised, the category and theme was added. Filters were applied to the column headings to regularly check that the spread sheet listed the appropriate theme and category names and to ensure that there was no inconsistency in the recording of the item (i.e. no spelling errors, abbreviations, etc.).

The Furniture Re-use Network (FRN) list of average weights 2009 (see Appendix 3) was used to apply an estimated weight to the item. If more than one item was collected, the average weight was multiplied by the number within the multiplier column. In some instances the actual item type was unknown and therefore an average of several items was needed. For example, a local authority may simply record that a bed has been set out for collection at a property, but that bed could be a double, single or king-size bed, and therefore an average of all three sizes was used in this instance.

The unique reference number for each household and the corresponding postcode were sent to CACI² to be ACORN profiled. ACORN is a geo-demographic tool used to understand populations. It segments populations according to their lifestyle, life-stage and affluence. CACI provided the ACORN category, group and type profile for every postcode supplied. For reporting purposes, the ACORN category profile (the highest level of ACORN classification) is the most useful.

3.2 Local Authority collected kerbside bulky items

The call centre data gathered was excellent at identifying the composition of the waste stream but was unable to identify the re-usability of the items. To obtain information on the re-usability of bulky items, further collection of primary data was required. In order to fill this gap, the contents of approximately 100 kerbside collection vehicles (from bulky collection rounds) were analysed for product re-use potential, as they tipped at the HWRC or transfer station.

It was not deemed to be cost effective for survey staff to accompany collection crews on the bulky waste rounds. Therefore local authorities that had agreed to allow sampling to take place at an HWRC were requested to identify a site located next to a waste transfer station, or a site that allows district bulky waste collections to tip on-site. This enabled the HWRC survey staff to also observe kerbside bulky waste collections as they were disposed of at eight out of the 14 HWRCs. Because survey staff did not travel with the collection crew, it was not possible for an assessment of re-use potential to be made at the point of collection.

It was also not possible within the timescales involved to ask the LA call centre staff and collection crews to identify which items were set out by particular households. Therefore the kerbside primary data gathering only assessed the item type and re-use potential post collection.

Vehicles were observed tipping a total of 1,184 items across eight sites. Furniture Reuse Network (FRN) average weight data was used to assess the weight per item. This data was not ACORN profiled.

² <http://www.caci.co.uk/>

It should be noted that the re-use assessment was completed post collection from the household, and therefore the results differ to the estimates provided in the WRAP bulky waste guidance document³ which are based on pre-collection re-use rates. Further discussion is included in Section 6.0.

3.3 Household bulky items delivered to HWRCs by individuals

Despite the difficulty of transporting bulky items to a HWRC, it is believed that this option is well used by householders wishing to dispose of or recycle bulky waste, particularly if there is an expensive kerbside collection service. Therefore this study aimed to understand the type of items and the re-use potential of items taken to HWRCs.

For the HWRC fieldwork, a survey was developed and conducted by Resource Futures staff at 14 different HWRCs from 13 February to 17 March. Surveyors were on site for an average of 5 days per site, covering both peak and off peak times.

On entering the site all individuals were stopped and asked if they were disposing of bulky items and if they would be willing to participate in the survey. The survey was only conducted with householders disposing of bulky waste and a total of 5,776 householders were spoken to, logging a total of 12,470 different bulky items.

It is worth noting that under the WEEE Directive, the Government has to ensure that the UK has an adequate network of collection facilities for household WEEE. Local authorities can volunteer their site as a Designated Collection Facility (DCF). All sites where the fieldwork took place had registered as a DCF and therefore collected WEEE as per the Department for Business Innovation and Skills Code of Practice⁴.

The survey used the category list (provided in Appendix 1) and asked a series of questions to highlight the re-use potential of the item. Re-use potential was primarily assessed from the householder's view and also the surveyors' own visual inspection. Soft furniture was assessed for soiling and fire safety labels. For electrical items, the condition of cables and plugs were recorded.

It was not possible to PAT test the electrical items and so the visual assessment of re-use potential for electrical items may differ significantly from their actual re-use potential. This is discussed further in Section 6.0, which draws on other research conducted by WRAP into WEEE re-use.

All data collected during the survey was recorded on handheld computers and uploaded to the Resource Futures server at the end of every day. The survey is included in Appendix 4. The burden on residents using the sites was minimal as the survey was very quick to complete (on average around five minutes). Only those questions relevant to the item being disposed of were asked. Residents were asked for their postcode and a unique reference number was applied to the survey record. The data was then sent to CACI to be ACORN profiled. FRN average weight data was applied to each item. All residents using the site and disposing of bulky waste were asked to participate in the survey⁵. No quotas regarding age and gender were stipulated.

³ WRAP (2011) Bulky waste guidance: http://www.wrap.org.uk/sites/files/wrap/What_is_reusable.pdf

⁴ <http://www.bis.gov.uk/assets/biscore/business-sectors/docs/c/10-1007-code-of-practice-collection-weee>

⁵ During busy periods it is possible that some residents disposed of waste without completing the survey.

Table 3 below lists each of the sites where the survey was carried out and whether the site is managed by a unitary or waste disposal authority. The number of households recorded in the table relates to those within the waste collection authority (either the district council or the unitary) in which the site is located, not the whole county (or Waste Disposal Authority). The sites chosen aimed to be representative of the UK.

Table 3: Details of the HWRCs where the bulky waste survey was carried out

HWRC site name	Country	Authority type	Region	No. of sites in area	No. hh 2010
New Bradwell	England	Unitary	South East	3	96,907
Summers Lane	England	WDA	London	1	138,588
Lamby Way	Wales	Unitary	Wales	4	137,982
Stanley Road	England	Unitary	Yorkshire and the Humber	9	332,402
Huyton	England	WDA	North West	14	151,000
Yate	England	Unitary	South West	4	110,453
Scunthorpe	England	Unitary	Yorkshire and the Humber	8	71,899
Milton	England	WDA	East of England	9	60,000
Loughborough	England	WDA	East Midlands	14	155,000
Shrewsbury	England	Unitary	West Midlands	5	129,210
Poole	England	Unitary	South West	1	61,479
North Tyneside	England	Unitary	North East	1	91,697
Hornsey Street	England	WDA	London	3	82,500
Newhaven	England	WDA	South East	12	43,765

3.4 Summary of data recorded

The table included in Appendix 5 summarises the total number of items observed or recorded during the sampling period. Note that the sampling period is not the same for each collection method therefore the figures are not directly comparable. It does however show the items that commonly arise through each collection method, for example, armchairs, beds, carpet, mattresses, sofas, televisions and wardrobes. The methodology for producing national estimates of bulky waste arisings is described in greater detail in Section 6.

4.0 National estimates for household bulky waste arisings

Data gathered for kerbside collected bulky waste and bulky items delivered to HWRCs (Section 3) has been analysed alongside WasteDataFlow (WDF) tonnages for the UK during 2010/11, in order to arrive at national estimates for household bulky waste arisings. There are challenges involved with applying WDF tonnages, since bulky items are often not easily identifiable from the material categories used in WDF (as discussed below). Nonetheless it is considered that applying the compositional breakdown derived from the fieldwork in this study to estimates drawn from WDF provide the best available method of estimating national household bulky waste arisings. WDF is a national database of Local Authority operational waste and recycling tonnages and is the most accurate available dataset.

4.1 Kerbside bulky waste

WasteDataFlow (WDF) tonnages have been analysed in order to estimate the arisings of bulky waste collections in the UK. WDF includes a category for residual bulky waste collected at the kerbside and there are reasonably consistent tonnages reported by local authorities in the UK over recent years, as shown in Table 4. In 2008, Defra commissioned a study to enhance understanding of the current knowledge of the composition of municipal waste, the results of which were published in a report, [project reference WR0119](#). The Defra WR0119 estimate in Table 4 therefore refers to national municipal waste compositional estimates produced for the period 2006/07, detailed in the WR0119 Defra project report ([project reference WR0119](#)).

Table 4: Kerbside bulky waste collections residual tonnages reported in WDF in recent years

<i>Tonnes per annum</i>	<i>WR0119 2006/07 estimate</i>	2009/08	2009/10	2010/11
England	<i>269,790</i>	240,874	234,638	242,389
Wales	<i>no data</i>	7,138	7,848	5,314
Scotland	<i>no data</i>	66,149	68,684	65,408
Northern Ireland	<i>no data</i>	7,588	8,155	9,314
UNITED KINGDOM	<i>no data</i>	321,749	319,325	322,425

However we know that not all authorities are recording bulky waste residual waste collected at the kerbside separately in WDF. For example, around half of the authorities whose bulky waste collection call log data were monitored for this study had not reported bulky waste residual tonnages in WDF.

Some authorities may not be reporting bulky waste residual tonnages separately in WDF due to not having separate weights for this material, i.e. bulking up at Waste Transfer Stations or HWRC without separately weighing off. However it could also be that separate weights are available but have not been separately reported in WDF, which in some cases may be due to the guidance for completing WDF returns not being clearly understood.

Recycling and re-use of bulky waste collected at the kerbside is an area of even greater uncertainty. We would expect that a reasonable quantity of WEEE would be recycled / re-used, as local authorities are not supposed to be disposing of WEEE. Bulky waste collection recycling / re-use may be recorded in the WDF categories for Furniture and WEEE under Kerbside Recycling, or in other WDF recycling categories where it is impossible to separately distinguish bulky items, such as "Other recycling"; or within HWRC recycling, particularly where bulky collections are bulked up at HWRCs. Furthermore, where furniture re-use organisations (FROs) / third parties are carrying out bulky waste collections, it is by no means certain that

the quantities of materials thus collected and recycled / re-used (or indeed disposed) are being recorded by the third parties and then passed on to and reported by the local authorities.

The only recycling/re-use of bulky items collected at the kerbside that could be separately identified in WDF are bulky items reported in Kerbside Recycling, which specifically refers to Furniture and large WEEE items. A summary of these tonnages, for the UK during 2010/11, is as follows:

- "Kerbside Recycling" Furniture: 5,478 tonnes; and
- "Kerbside Recycling" large WEEE items: 15,482 tonnes.

If these tonnages are added to the bulky waste residual tonnages reported in WDF for the UK during 2010/11 (322,425 tonnes – see **Table 4**), this shows a total of 343,385 tonnes of bulky items collected at the kerbside which are identifiable in WDF. With 26,826,800 households in the UK in 2010/11, this equates to a national average arising of 12.8 kg/hh/yr. This estimate also equates to 1.6% of all household waste and recycling collected at the kerbside⁶. However as the previous discussion has made clear, some bulky waste collected at the kerbside has not been included in these estimates.

Whilst there is no data available to make an accurate estimate, it is considered likely that the WDF figure of 12.8 kg/hh/yr is a significant underestimate. The authorities that have not reported kerbside bulky waste tonnages in WDF account for approximately one third of national kerbside tonnage. Factoring up the estimate of 12.8 kg/hh/yr on this basis to account for non-reporting authorities arrives at an estimate of approximately 20 kg/hh/yr for kerbside bulky arisings. This estimate would equate to bulky items accounting for 2.5% of all household materials collected for disposal or recycling at the kerbside. The estimate would also correspond to **an estimated total of around 540,000 tonnes of bulky items collected at the kerbside in the UK during 2010/11**. The estimate (pegged at 20 kg/hh/yr) is the best available, although it should be noted that it is an approximate estimate based on the assumption that a significant quantity of kerbside bulky is not recorded in WDF.

⁶ WDF kerbside household tonnages for the UK 2010/11: Kerbside refuse: 13,319,660 tonnes; kerbside recycling/reuse: 7,519,019 tonnes; bulky waste residual collected at the kerbside: 322,425 tonnes; total: 21,161,104 tonnes.

4.2 HWRC bulky waste WDF data

WasteDataFlow (WDF) tonnages for HWRC household residual and recycling/re-use tonnages were collected for the UK for 2010/11, as summarised in Table 5. This table shows any readily identifiable bulky items reported in WDF, as well as showing throughputs and recycling rates for HWRCs at a national level.

Table 5: Summary of HWRC WDF tonnages, UK 2010/11

HWRC data from WDF	2010/11	2010/11	2010/11	2010/11	2010/11
WDF tpa	ENGLAND	SCOTLAND	NI	WALES	UK
Bulky WEEE recycling/re-use	173,280	20,383	8,678	14,294	216,635
Furniture recycling/re-use	11,176	1,194	27	378	12,776
Rubble and soil recycling	666,664	102,786	18,778	66,572	854,800
Other recycling	2,364,058	203,601	112,239	175,416	2,855,313
RESIDUAL	1,633,758	262,752	118,364	122,110	2,136,984
THROUGHPUT	4,848,936	590,716	258,086	378,770	6,076,507
Recycling Rate excluding inert	60.9%	46.1%	50.5%	60.9%	59.1%
Recycling Rate including inert	66.3%	55.5%	54.1%	67.8%	64.8%

However there are many bulky items delivered to HWRCs that will not have been recorded separately, in particular those items that are disposed. This presents a significant challenge in terms of estimating the quantity of bulky items delivered to HWRCs. The approach taken in this study is to focus on one bulky fraction which is likely to have been consistently recorded by local authorities throughout the UK, namely bulky WEEE items. The tonnage reported for bulky WEEE items has then been used as a basis for grossing up to national estimates of bulky arisings, through considering fieldwork findings on the bulky WEEE as a proportion of all bulky items delivered to HWRCs.

National estimates for bulky items delivered to HWRCs were arrived at by comparing WDF tonnages for the recycling/re-use of large WEEE items with the fieldwork data carried out for this study. According to WDF (Table 5) bulky WEEE items accounted for 216,635 tonnes of recycling/re-use at HWRCs across the UK. Since HWRCs are required not to dispose of any WEEE items, we have made the assumption that this tonnage accounts for *all* bulky WEEE items delivered to HWRCs. The fieldwork estimated that bulky WEEE accounts for 20.73% of all bulky items delivered to HWRCs. The estimated arising of all bulky items to HWRCs has been extrapolated thus: 216,635 tonnes *divided by* 20.73% = 1,045,075 tonnes, though given the uncertainties in the methodology, this has been rounded to 1,050,000 tonnes.

Therefore the total arising of household bulky items delivered to HWRCs in the UK during 2010/11 is estimated to be 1,050,000 tonnes. If this is compared to the total throughput for all HWRCs in the UK (6,076,507 tonnes, Table 5), this accounts for 17.3% of HWRC throughputs. This equates to around 39 kg/hh/yr, as an average across the UK during 2010/11.

Unfortunately since the recycling/re-use of bulky items is not recorded consistently in WDF (with many recycled/re-used bulky items probably recorded under the Other Recycling category), it is difficult to estimate what proportion of bulky items delivered to HWRCs are recycled or re-used.

5.0 National bulky waste composition

This section presents results relating to the estimated national composition of household bulky waste streams. More detailed results are presented in Appendix 6.

5.1 Average composition across all channels (HWRC's and Kerbside)

National estimates have been derived using WasteDataFlow (Section 4). This suggests that **throughout the UK an estimated total of 1,590,000 tonnes of bulky waste is collected at either the kerbside or HWRCs**, with approximately twice as much being collected at HWRCs than through bulky waste collections:

- Estimated 540,000 tonnes of bulky items through kerbside bulky collections (Section 4.1)
- Estimated 1,050,000 tonnes of bulky items delivered to HWRCs (Section 4.2).

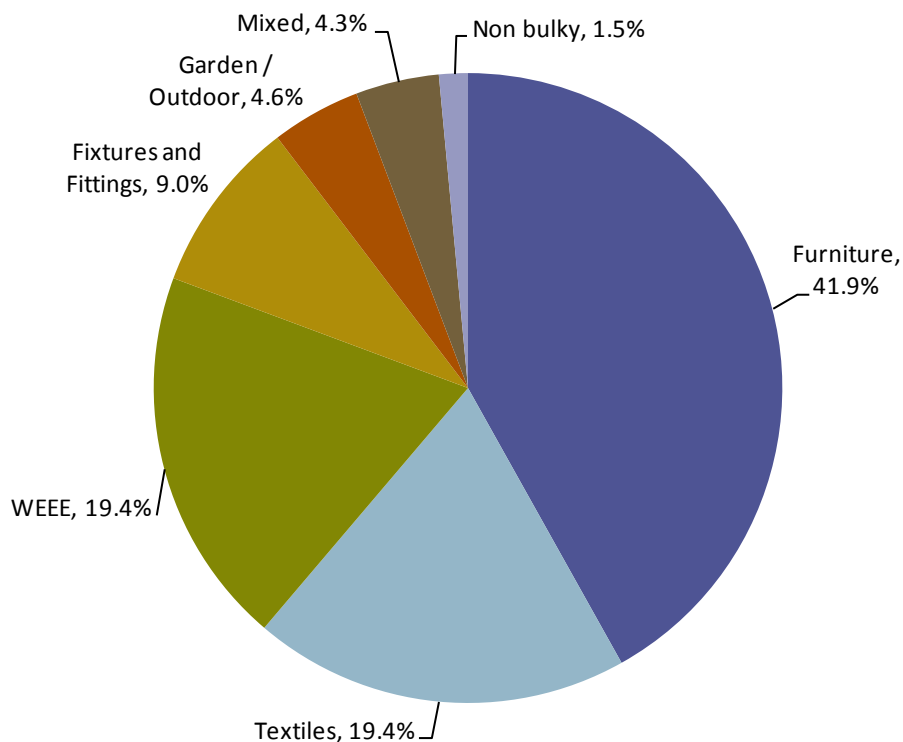
There are some significant differences in the composition of the two collection methods; this is shown in the table below. An average composition across all channels is shown which suggests that nearly 42% of all bulky waste in the UK is furniture, 19% is textiles and a further 19% is WEEE. These estimates equate to 670,000 tonnes of furniture and 310,000 tonnes each of textiles and WEEE disposed by householders in the UK annually. It is worth noting that WEEE does not include electrical items that are collected by retailers through reverse logistics (when they supply a new item); and that "textiles" includes mattresses. The table also includes an estimate as the national arisings (by theme) across both collection channels.

Table 6: Kerbside and HWRC bulky waste collection composition and estimated arisings across both collection methods (tonnes) for the UK

	Kerbside bulky waste collection	HWRC bulky waste	Percentage arisings across both collection methods	Estimated tonnes collected through both collection methods, UK 2010/11
Furniture	52.3%	36.5%	41.9%	665,794
Textiles	20.9%	18.6%	19.4%	307,719
WEEE	16.9%	20.7%	19.4%	309,114
Fixtures & Fittings	2.5%	12.3%	9.0%	142,478
Garden / Outdoor	2.0%	6.0%	4.6%	73,045
Mixed	1.0%	6.0%	4.3%	68,266
Other Non-Bulky	4.4%	0.0%	1.5%	23,584
TOTAL	100%	100%	100%	1,590,000

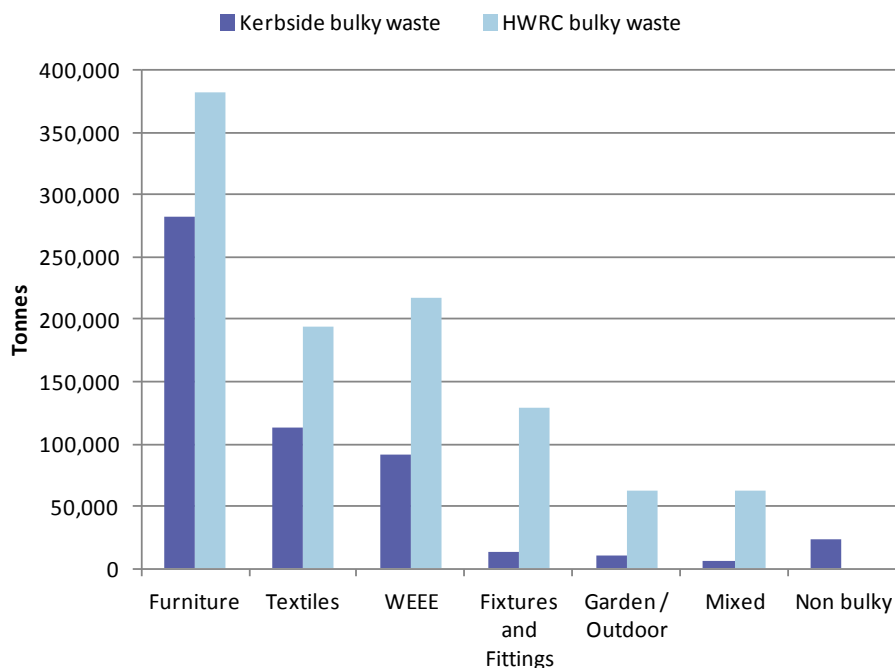
The pie chart below shows the average composition of all bulky waste collected via the kerbside and at HWRCs.

Figure 1: Average composition by theme for kerbside bulky waste collections and HWRCs



It is possible to apply the above compositional breakdown to the estimated national bulky waste tonnage to provide an estimate of the national bulky waste arisings by theme, as shown in Figure 2 (split by kerbside and HWRC bulky waste).

Figure 2: Estimated national total bulky waste arisings by Theme, UK 2010/10 (tonnes)

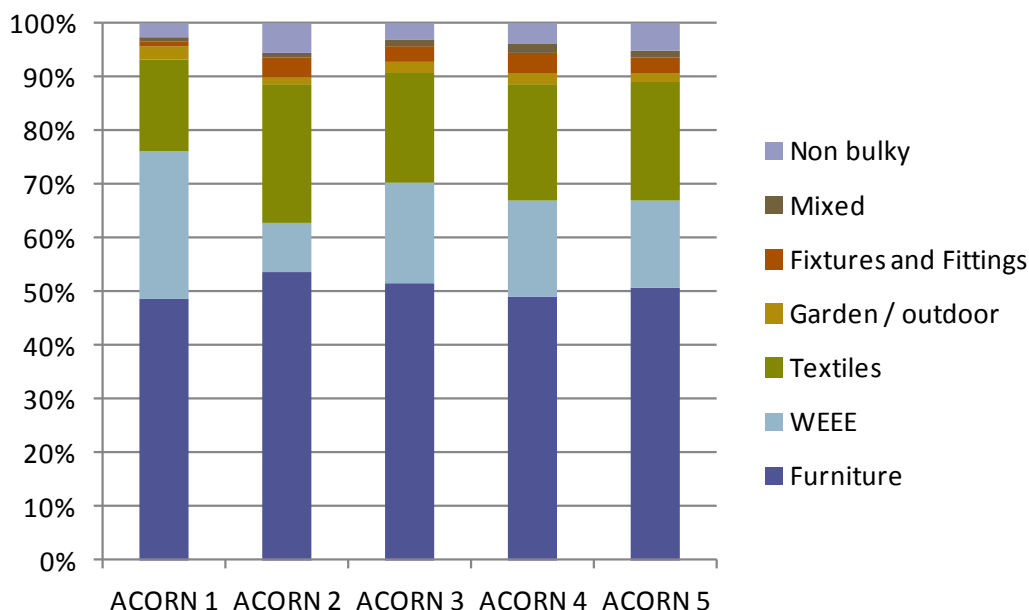


5.2 ACORN variance

Figure 3 below shows the average breakdown of kerbside bulky waste collected by theme for each ACORN category, as derived from analysis of the call log data. More ACORN 2 and 5 households set out non-bulky items for collection and more ACORN 2 households set out textiles (primarily carpet and mattresses) than any other ACORN category. Similar proportions of furniture were set out by all categories and more ACORN 1 households set out bulky WEEE.

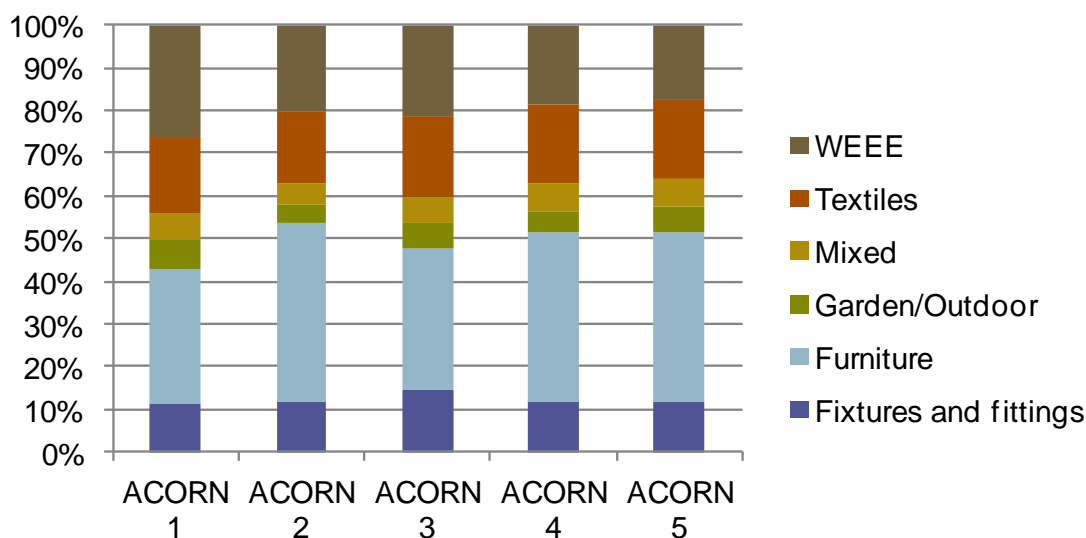
For more detail on ACORN categories please see www.caci.co.uk/acorn-classification.aspx

Figure 3: Breakdown of kerbside bulky waste collections by theme for ACORN categories



Corresponding data for bulky items delivered to HWRCs is shown in Figure 4, though with no significant trends discernible in relation to types of bulky items delivered to HWRCs by different ACORN categories.

Figure 4: Breakdown of HWRC bulky waste by theme for ACORN categories

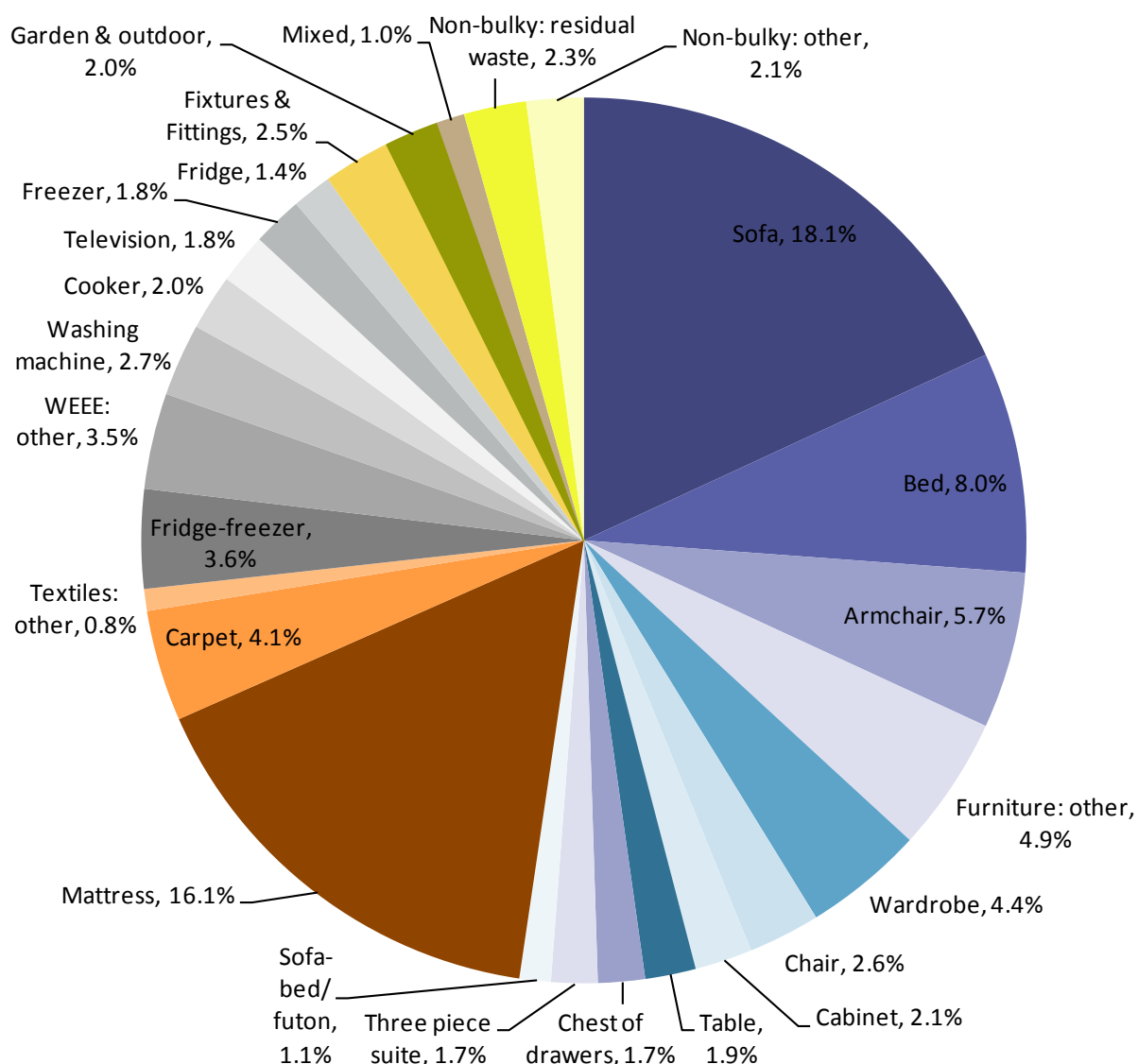


5.3 Common items and item breakdown within bulky waste

In general the range of types of items set out for kerbside bulky waste collections are narrower than the range of bulky items taken to HWRCs. This is likely to be a reflection of the bulky waste collection policy, as many local authorities will not collect DIY type waste. Therefore far more fixtures and fittings arise at the HWRC than kerbside bulky waste. Sofas and mattresses made up a higher proportion of kerbside bulky waste than HWRC bulky waste. Whilst large numbers of mattresses do arise at HWRCs it is unsurprising that such bulky items are more likely to be set out for collection as they are difficult to transport. Bulky waste taken to the HWRC is often dismantled or broken, e.g. kitchen units and wardrobes, making them easier to transport than large furniture that is difficult to dismantle such as sofas or mattresses.

Figures 5 and 6 illustrate bulky waste arisings by item, respectively at the kerbside and HWRC.

Figure 5: Percentages for kerbside bulky waste arisings (by weight)



The chart shows that sofas and mattresses are two of the items that most commonly are set out for collection at the kerbside for the bulky waste collection (BWC) crew. Applying the percentage breakdown of mattresses observed during the bulky waste collection fieldwork, more than 60% of mattresses are double and nearly 39% are single mattresses. Very few (less than 1%) of mattresses set out for BWC crew are king-size. Using the BWC fieldwork data

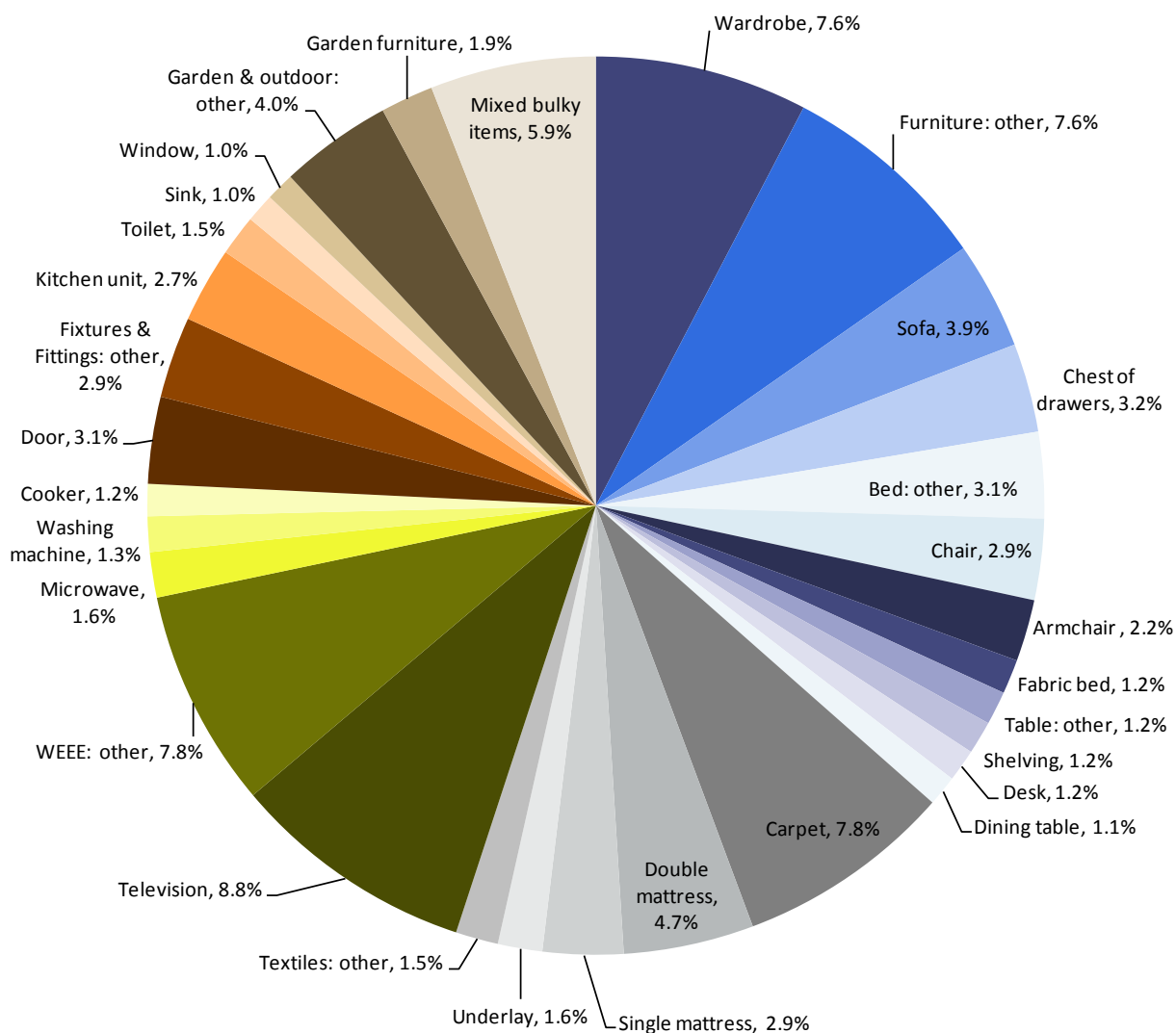
again, we can estimate that the number of 2-seater sofas set out for collection were 49.6% by weight (or 52.8% in number of units), with the remainder being 3-seater sofas.

Adding the weight of all WEEE items together, they account for 16.8% of items set out for collection at the kerbside. The chart also shows that over 4% of items collected (by weight) are not bulky waste according to the legal definition. This fraction of the collected waste consists of residual waste and non-bulky items.

Using the breakdown of bulky waste arisings at the kerbside an estimate of the total tonnage per item has been calculated. The 20 most frequently arising items (by weight) are recorded in Table 7 and the full breakdown of items can be found in Appendix 6.

With respect to HWRCs, Figure 6 shows the most common bulky items taken to HWRCs (by weight). There are some notable differences to the items set out for collection at the kerbside, with fewer numbers of sofas and mattresses being taken to the HWRC. A larger amount of WEEE (by weight) is taken by residents to the HWRC and also fixtures and fittings. Televisions, wardrobes and carpet are some of the items that arise in the highest amount.

Figure 6: Percentages for bulky waste arisings at HWRCs (by weight)



Once again, using the breakdown of bulky waste arisings at HWRCs an estimate of the total tonnage per item has been calculated. The 20 most frequently arising items (by weight) are recorded in Table 7 and the full breakdown of items can be found in Appendix 6. Interestingly, underlay and toilets were only observed being collected at HWRCs and yet due to the quantity and therefore weight of arisings, they are significant items in the overall national estimate list.

Table 7: Estimated national breakdown of bulky waste, UK 2010/11 (tonnes)

Item summary	HWRC national estimate	BWC national estimate	Total national estimate
Mattress	79,775	86,699	166,474
Sofa	40,674	97,841	138,515
Wardrobe	80,478	23,658	104,137
Carpet	82,056	21,916	103,972
Television	92,415	9,980	102,395
Bed	32,585	43,446	76,031
Armchair	23,328	30,871	54,199
Chair	30,637	14,165	44,802
Chest of drawers	33,577	9,254	42,831
Door	32,809	5,073	37,881
Kitchen unit	28,502	1,443	29,945
Fridge freezer	8,954	19,529	28,483
Medium miscellaneous	28,177	6	28,183
Washing machine	13,375	14,310	27,685
Garden furniture	20,013	3,790	23,803
Table	12,667	10,003	22,670
Underlay	16,835	3,180	20,015
Microwave	17,143	1,840	18,984
Large miscellaneous	14,470	1,582	16,052
Toilet	15,376	0	15,376
TOTAL	703,847	398,587	1,102,433

6.0 Main opportunities for re-use

A key aim of this study was to identify the re-use potential of bulky waste to feed into the WRAP Benefits of Re-use Tool (BORT). It was not possible to assess this for the kerbside bulky waste call log data because it was historic data and local authorities rarely record this type of information. Therefore only the re-use potential of items taken to the HWRCs and collected by kerbside bulky waste collections during the fieldwork stage was assessed.

For the items taken to the HWRC several questions relating to re-use were posed. Residents were asked if in their opinion the item was working / re-usable and the site surveyor also made a visual assessment of re-use potential. In the case of WEEE items, no testing was undertaken therefore, as per other items, the assessment of re-use of WEEE is based solely on a visual inspection. For WEEE items, they were checked for cables and plugs and the presence or not of the television remote control was recorded. Re-use organisations can only resell soft furniture and mattresses with fire labels and therefore the presence of these were recorded. Also the level of soiling of these items was assessed.

For items collected by the bulky waste collection crews, the same assessments were undertaken with the exception of identifying the residents' view of re-use potential. However, in some cases due to health and safety concerns site surveyors were not permitted to get close to the items when they were being taken off the vehicles. In these cases it was more difficult to observe re-use factors such as fire labels.

6.1 Site users assessment of re-use potential of items at HWRCs

During the HWRC fieldwork, a number of questions were asked of the resident disposing of the item to assess the re-use potential of the item before and after it was transported to the HWRC. Residents were asked if they think the item is re-usable, of which 36% said yes (by weight across all items and themes) see Figure 7. This differs for different themes therefore the theme data is shown in Table 8.

Figure 7: Estimated proportion (by weight) of re-usable bulky items delivered to HWRCs, based on residents' assessments of re-use potential

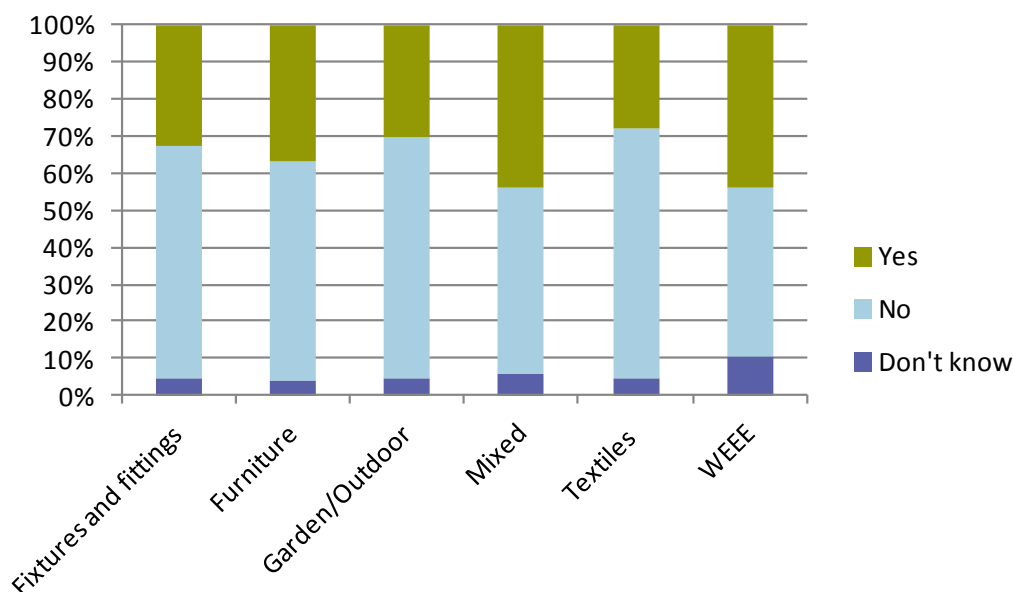


Table 8: Householders' assessment of item re-use potential

Theme	Count	Percentage count	Estimated weight (kg)	Percentage weight
All themes				
Don't know	713	5.8%	14,095	5.8%
No	6,811	55.2%	140,623	58.0%
Yes	4,806	39.0%	87,903	36.2%
Fixtures and fittings				
Don't know	59	4.4%	1,399	4.7%
No	823	61.6%	18,539	62.6%
Yes	455	34.0%	9,657	32.6%
Furniture				
Don't know	145	4.0%	3,570	4.1%
No	1,973	54.7%	51,195	59.2%
Yes	1,487	41.2%	31,671	36.6%
Garden/Outdoor				
Don't know	57	4.4%	662	4.5%
No	802	62.4%	9,511	65.3%
Yes	427	33.2%	4,390	30.1%
Mixed				
Don't know	107	5.9%	777	5.6%
No	907	50.3%	7,005	50.4%
Yes	790	43.8%	6,125	44.0%
Textiles				
Don't know	88	4.8%	2,129	4.7%
No	1,208	65.9%	30,374	67.2%
Yes	536	29.3%	12,671	28.0%
WEEE				
Don't know	257	10.4%	5,557	10.5%
No	1,098	44.5%	24,000	45.3%
Yes	1,111	45.1%	23,389	44.2%

Site users were asked if the items they were disposing of were dismantled or broken for transportation to the HWRC or if they were in this condition before being moved. The vast majority (79% - see Figure 8) claimed the item was in the same condition before it was moved. Table 9 shows this data by theme.

Figure 8: Householders' assessment of the condition of the items (all themes)

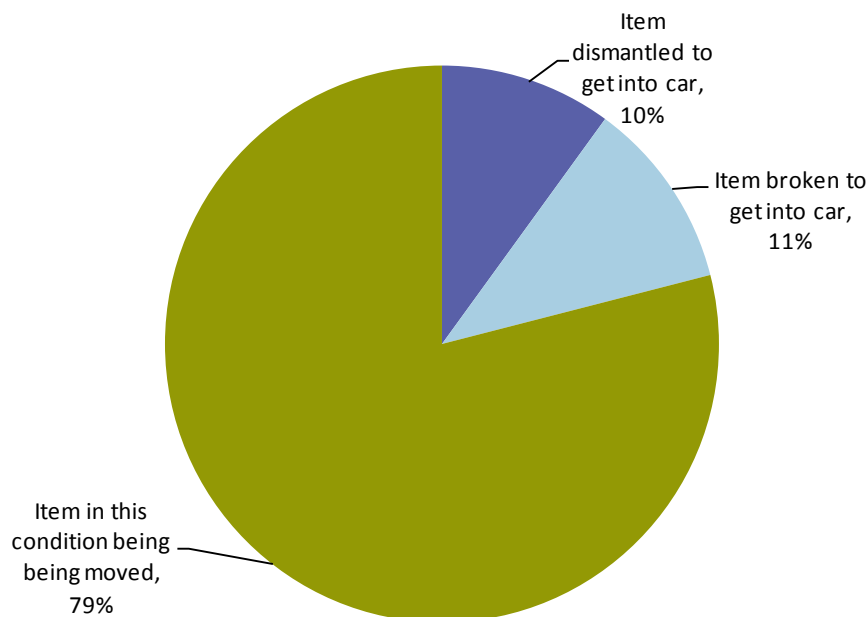


Table 9: Householders' understanding of the condition of the items disposed of at HWRCs

Theme	Condition	Count	Percentage count	Estimated weight (kg)	Percentage weight
Fixtures and fittings	Item dismantled to get into car	201	14.9%	4,555	15.2%
	Item was broken to get it into car	262	19.4%	5,846	19.6%
	Item was in this condition	889	65.8%	19,500	65.2%
Furniture	Item dismantled to get into car	615	16.9%	17,878	20.4%
	Item was broken to get it into car	624	17.1%	18,522	21.2%
	Item was in this condition	2,408	66.0%	51,028	58.4%
Garden and outdoor	Item dismantled to get into car	143	11.0%	1,937	13.2%
	Item was broken to get it into car	199	15.3%	2,584	17.6%
	Item was in this condition	956	73.7%	10,178	69.2%
Mixed	Item dismantled to get into car	123	6.7%	1,063	7.5%
	Item was broken to get it into car	111	6.1%	1,092	7.7%
	Item was in this condition	1,598	87.2%	11,974	84.7%
Textiles	Item dismantled to get into car	93	5.0%	2,317	5.1%
	Item was broken to get it into car	165	8.9%	4,280	9.4%
	Item was in this condition	1,598	86.1%	39,118	85.6%
WEEE	Item dismantled to get into car	40	1.6%	720	1.4%
	Item was broken to get it into car	22	0.9%	574	1.1%
	Item was in this condition	2,401	97.5%	51,596	97.6%

There was concern raised regarding the response to this question for WEEE. The results show (see Table 10) that there were 40 WEEE items that were dismantled to be taken to the HWRC and 22 items were broken. However it is unclear to what extent the item was dismantled (e.g. simple removal of plug or something more extensive) and if there were any health and safety issues for the resident or site operative as a result.

Table 10: WEEE items dismantled or broken for easier transportation to the HWRC

Item dismantled to get into car	Count	Item was broken to get it into car	Count
	40		22
Boiler	2	Other medical devices	1
Ceiling light	1	Boiler	1
Computer	3	Ceiling light	1
Cooker	2	Electric sofa	1
Electric sofa	1	Exercise equipment	2
Exercise equipment	4	Fan	1
Fan	5	Heater	1
Freezer	1	Lamp	2
Fridge freezer	2	Lawnmower	1
Golf trolley	1	Other SDA	1
Heater	1	Printer	1
Kitchen appliance	1	Stereo	2
Lamp	3	Television	5
Monitor	1	Washing machine	2
Other LDA	2		
Other SDA	2		
Other toys, leisure or sports equipment	1		
Satellite dish	1		
Stereo	1		
Storage heater	1		
Television	3		
Washing machine	1		

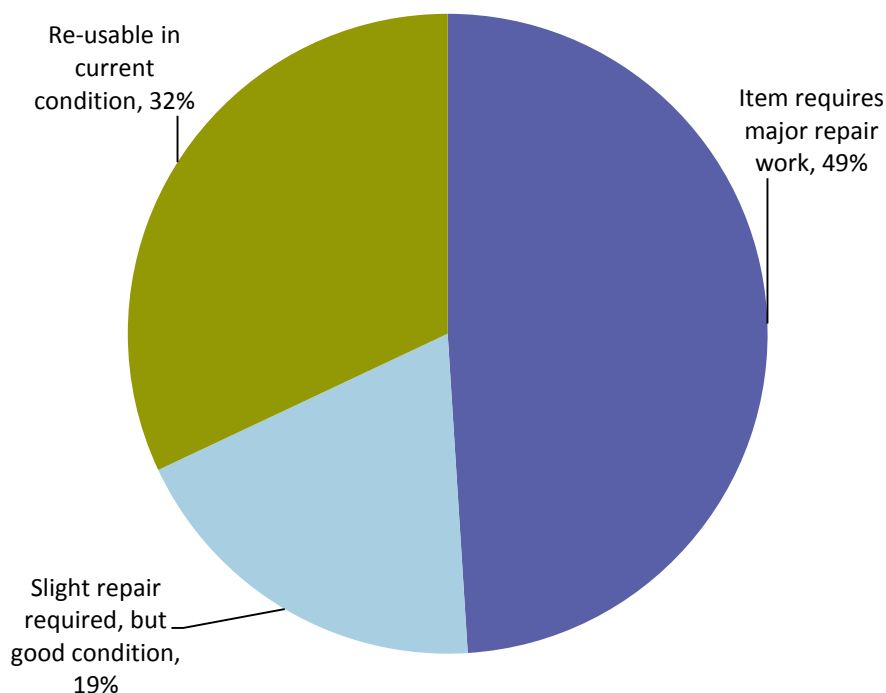
6.2 Assessments of re-use potential at HWRCs

The site surveyor conducted a visual assessment to determine if the items to be disposed of at the HWRC were in good condition and could be re-used or whether they needed slight or major repair work to become re-usable. This took account of other factors that affect re-use potential such as level of soiling, presence of fire labels and overall appearance.

Across all themes, by weight, 32% of items were deemed to be re-usable in their current condition, as show in Figure 9. This is slightly lower that the estimate made by residents. Details per theme are listed in Figure 10. If we also include the items that need slight repair and those in good condition, this suggests that just over half of the waste disposed of at HWRCs is re-usable.

It is worth noting again that the assessment of re-use potential for all items, including WEEE was visual only and therefore the actual number of WEEE items that are re-usable may be different. For WEEE items, they were deemed to be re-usable if they were intact with all relevant cables and plugs, and not damaged or scratched. For more detail regarding actual re-use potential of WEEE items collected at HWRCs see The Value of Re-using Household WEEE by WRAP⁷, this research showed that 26% of all the large WEEE collected at HWRCs was suitable for immediate re-use, and a further 25% was deemed to be re-usable following repair and refurbishment, which is less than a visual inspection would lead us to believe.

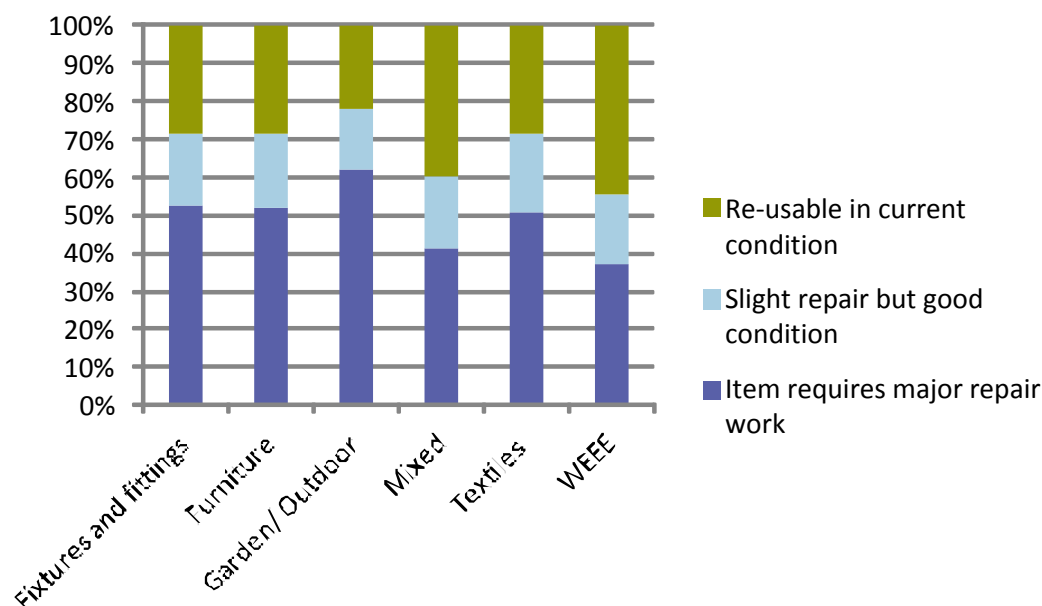
Figure 9: Assessment of re-use potential, all themes



As can be seen in Figure 10, WEEE, miscellaneous and furniture items were more likely to be re-usable in their current condition. However it should be noted that no testing of WEEE took place during this research and that therefore these estimates are based on visual assessments only (see comments above).

⁷ <http://www.wrap.org.uk/content/waste-electrical-and-electronic-equipment-could-generate-%C2%A3millions-says-wrap>

Figure 10: Assessment of re-use potential at HWRCs, per theme



The average assessment of re-usable items, including those in need of slight repair, is approximately 55%. Residents estimated that only 36% of items were re-usable. Both these figures are significantly lower than the estimate included in the WRAP bulky waste guidance report⁸ which suggests that given the right conditions on site, nearly 80% of bulky waste is re-usable. However it is likely that this figure is based on WEEE and furniture only and excludes other categories of bulky waste, such as fixtures and fittings (which are likely to reduce average re-use estimates).

WRAP have conducted previous research into the re-use potential of WEEE collected at HWRCs⁹. This research included testing of items and suggests that 49% of large WEEE collected at HWRCs is able to be re-sold immediately or following viable repair and refurbishment. This is less than that stated above, although no actual testing of appliances was carried out for the current study. The difference therefore between the previous WRAP research (49% large WEEE re-usable) and data collected during this study (64%) is likely to be a result of a visual rather than physical assessment of the items. Interestingly residents believed that only 44.2% of items were re-usable.

The assessment of re-use potential data has been applied to the national HWRC bulky waste estimates. Figure 11 shows the estimated weight of re-usable items per theme in the UK.

⁸ http://www.wrap.org.uk/downloads/What_is_reusable.2464be91.11154.pdf

⁹ http://www.wrap.org.uk/downloads/WRAP_WEEE_HWRC_summary_report.7bc803d8.11560.pdf

Figure 11: Estimate for re-use potential by theme for bulky items delivered to HWRCs, UK 2010/11

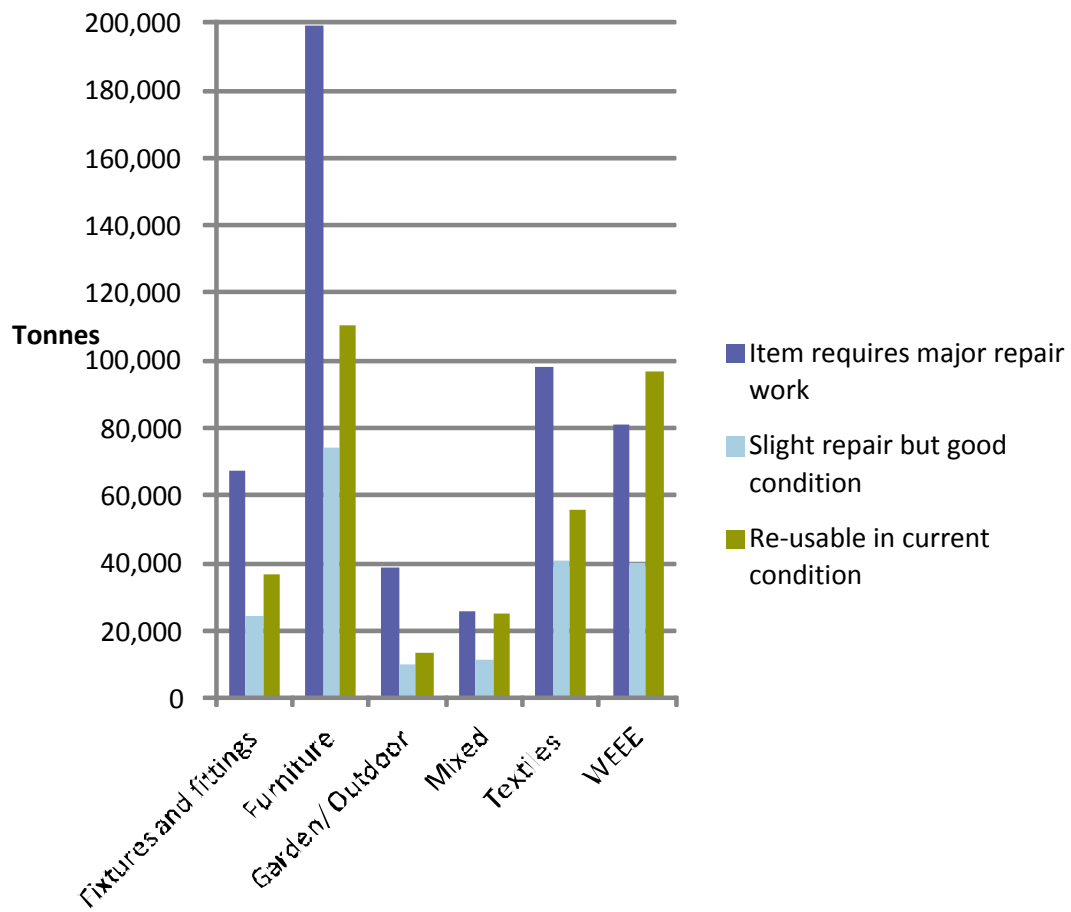


Table 11 shows the visual assessment of re-use potential by theme and both number of units and total weight.

Table 11: Visual assessment of re-use potential, by theme

Theme	Re-use potential - visual assessment	Count	Percentage count	Sum of Weight (kg)	Percentage of weight
Fixtures and fittings	Item requires major repair work	721	53.3%	15,666	52.4%
	Re-usable in current condition	397	29.4%	8,529	28.5%
	Slight repair but good condition	234	17.3%	5,706	19.1%
Furniture	Item requires major repair work	1,716	47.0%	45,413	51.9%
	Re-usable in current condition	1,231	33.7%	25,217	28.8%
	Slight repair but good condition	704	19.3%	16,909	19.3%
Garden/ Outdoor	Item requires major repair work	752	57.9%	9,130	62.1%
	Re-usable in current condition	324	25.0%	3,225	21.9%
	Slight repair but good condition	222	17.1%	2,344	15.9%
Mixed	Item requires major repair work	749	40.8%	5,838	41.3%
	Re-usable in current condition	728	39.7%	5,670	40.1%
	Slight repair but good condition	358	19.5%	2,639	18.7%
Textiles	Item requires major repair work	918	49.4%	23,107	50.5%
	Re-usable in current condition	537	28.9%	13,060	28.5%
	Slight repair but good condition	402	21.6%	9,588	21.0%
WEEE	Item requires major repair work	879	35.6%	19,645	37.1%
	Re-usable in current condition	1,157	46.9%	23,632	44.6%
	Slight repair but good condition	430	17.4%	9,668	18.3%
Average all themes	Item requires major repair work	5,735	46.0%	118,799	48.5%
	Re-usable in current condition	4,374	35.1%	79,334	32.4%
	Slight repair but good condition	2,350	18.9%	46,853	19.1%

The visual assessment also allowed the site surveyor to record whether the items were believed to be recyclable as well as repairable if they were not immediately re-usable. Across all themes, 49% of items (by weight) were deemed to be neither non-repairable nor recyclable. This is broken down by theme in Table 12.

Table 12: Visual assessment of reparability and recyclability

Theme	Condition	Count	percentage count	Weight (kg)	Percentage weight
Fixtures and fittings	Not repairable and not recyclable	292	21.6%	6,834	22.9%
	Not repairable, but recyclable	427	31.6%	8,800	29.4%
Furniture	Not repairable and not recyclable	550	15.1%	15,307	17.5%
	Not repairable, but recyclable	1,157	31.7%	29,890	34.1%
Garden/Outdoor	Not repairable and not recyclable	181	13.9%	2,046	13.9%
	Not repairable, but recyclable	569	43.8%	7,070	48.1%
Mixed	Not repairable and not recyclable	368	20.0%	2,746	19.4%
	Not repairable, but recyclable	376	20.5%	3,052	21.6%
Textiles	Not repairable and not recyclable	871	46.9%	21,921	47.9%
	Not repairable, but recyclable	45	2.4%	1,140	2.5%
WEEE	Not repairable and not recyclable	410	16.6%	8,914	16.8%
	Not repairable, but recyclable	468	19.0%	10,701	20.2%

6.3 Assessment of re-use potential of items collected at the kerbside

The fieldwork also assessed the potential for re-use of items collected through kerbside bulky waste arisings at sites in the following local authority areas: South Gloucestershire, Cambridgeshire, Scunthorpe, Poole, North Tyneside, Edmonton, Cardiff, Leeds and Merseyside. Whilst the sample was not as large the HWRC sample, it still represents a large and useful dataset. Across all themes and all local authority areas, 24% of items collected via the kerbside were assessed as being re-usable; and a further 16% were assessed as re-usable with slight repair. The data suggests that approximately one quarter of items within the WEEE and furniture themes are re-usable. These themes include items that are in demand within the second hand market and therefore it is useful to understand that even post collection (i.e. items may have been left outdoors subject to weather damage) that nearly 25% are re-usable. Once again, note that WEEE items have not been tested and the estimates presented here relate to visual assessments only. The re-use potential of items across all themes is shown in Figure 12 and per theme in Figure 13.

Figure 12: Assessment of re-use potential of items collected via bulky waste collection, all themes

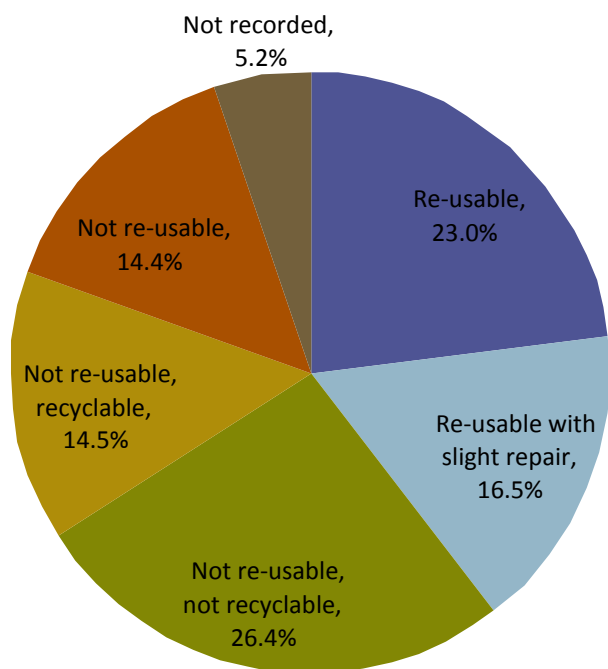
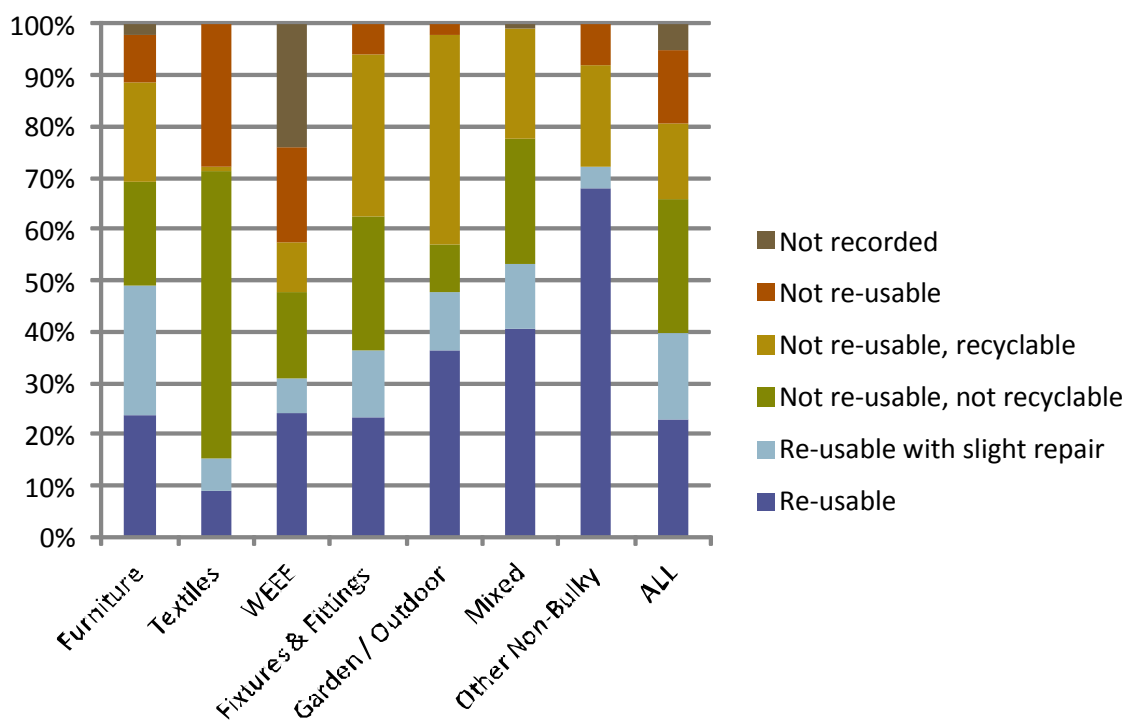


Figure 13: Re-use potential of bulky waste collected at the kerbside



The average percentage of items collected from the kerbside that are re-usable or re-usable with slight repair is 40%. This is lower than the 50% stated within the WRAP bulky waste guidance¹⁰ but it is worth remembering that the bulky waste guidance assumes pre-collection

¹⁰ http://www.wrap.org.uk/downloads/What_is_reusable.2464be91.11154.pdf

and the data reported here is post collection. There is clearly deterioration in the quality of items set out for kerbside bulky waste collections, but despite this there are still a significant proportion of items that are deemed to be re-usable. As there is an expectation that the second hand market can cope with more stock, this collection method should not be ruled out as a source of quality items.

The assessment for re-use of items post kerbside bulky waste collection has been applied to the national estimate, the results of which are shown in Table 13.

Table 13: Estimate of re-usable and non-re-usable arisings within kerbside bulky waste, by theme (UK 2010/11, tonnes)

	Re-usable	Re-usable with slight repair	Not re-usable, not recyclable	Not re-usable, recyclable	Not re-usable	Not recorded	Total potentially re-usable	Total not re-usable
Furniture	66,734	71,005	58,192	53,921	26,694	5,873	137,740	138,808
Textiles	10,260	7,020	63,180	1,080	31,320	0	17,280	95,580
WEEE	22,028	6,294	15,105	8,811	16,993	22,028	28,322	40,910
Fixtures & Fittings	3,130	1,761	3,522	4,304	783	0	4,891	8,609
Garden / Outdoor	3,927	1,227	982	4,418	246	0	5,155	5,646
Mixed	2,183	689	1,321	1,149	0	57	2,872	2,470
Other Non-Bulky	16,157	950	0	4,752	1,901	0	17,107	6,653

6.4 Bulky items by product type

The most common items set out for kerbside bulky waste collection are sofas, mattresses, beds, armchairs and wardrobes. The highest contributing items by weight are shown in Table 14. Corresponding data for HWRCs is shown in Table 15, showing that televisions, carpet, wardrobes, double mattresses and sofas are the top five items to arise by weight.

Table 14: Items with the largest weight contribution to overall kerbside bulky waste collections

Item	Count items	Sum of Weight (kg)	Percentage contribution to overall weight of bulky waste
Sofa	1,161	46,459	17.5%
Mattress	1,225	42,937	16.2%
Bed	786	20,630	7.8%
Armchair	535	14,659	5.5%
Wardrobe	242	11,234	4.2%
Carpet	448	10,853	4.1%
Fridge/ freezer	206	10,485	4.0%
Washing machine	119	7,683	2.9%
Chair	562	6,726	2.5%
Cooker	109	5,897	2.2%
Cabinet	162	5,381	2.0%
Residual waste	160	5,367	2.0%
Television	362	5,358	2.0%
Freezer	135	5,323	2.0%
Table	231	4,750	1.8%
Chest of drawers	166	4,394	1.7%
Three piece suite	44	4,340	1.6%
Fridge	102	3,256	1.2%
Sofa-bed/ futon	59	2,934	1.1%
Dishwasher	58	2,726	1.0%

Table 15: Items with the largest weight contribution to overall HWRC bulky waste

Item summary	Count	Sum of weight (kg)	Percentage contribution to overall weight of bulky waste
Television	925	22,645	8.2%
Carpet	756	18,900	6.8%
Wardrobe	381	17,887	6.5%
Double mattress	296	11,840	4.3%
Sofa	246	9,647	3.5%
Door	260	7,659	2.8%
Chest of drawers	284	7,654	2.8%
Chest of drawers	284	7,654	2.8%
Bed	287	7,398	2.7%
Chair	526	7,304	2.6%
Single mattress	347	7,287	2.6%
Medium miscellaneous	1,050	6,403	2.3%
Kitchen unit	288	6,272	2.3%
Armchair	204	5,508	2.0%
Garden furniture	420	4,753	1.7%
Underlay	156	3,900	1.4%
Microwave	200	3,800	1.4%
Toilet	113	3,750	1.4%
Washing machine	54	3,458	1.3%
Large miscellaneous	287	3,196	1.2%

6.5 Bulky items by material type

The primary material of each item was recorded and is shown below. WEEE and textiles have been excluded because the primary material was not recorded for these items. The WEEE Protocols data is available from BIS and provides a robust estimate of the breakdown of these items. The data is based on a visual assessment only and no deconstruction of items took place. However this is still a good indication for the primary material for different types of items. Estimated arisings of bulky items by material are shown in Table 16 (which shows data by the number of bulky items) and Table 17 (showing data by estimated weight of bulky items).

Table 16: Estimated arising of bulky items by material, in terms of numbers of bulky items

	Theme and category	Ceramic	Chipboard/ wood composite	Fabric	Glass	Metal	Plastic	Rubber	Wood	Grand Total	
Count of items	Fixtures and fittings	192	358	1	102	113	219	3	364	1,352	
	Furniture	All furniture		771	387	28	578	121		1,766	3,651
		Large hard furniture		592	7	21	195	18		804	1,637
		Small hard furniture		170	14	7	302	95		687	1,275
	Garden/Outdoor		4	3	6	607	279	1	396	1,298	
	Mixed	13	74	152	125	627	509	25	309	1,836	
% count of items	Fixtures and fittings	14.2%	26.5%	0.1%	7.5%	8.4%	16.2%	0.2%	26.9%	100%	
	Furniture	All furniture		21.1%	10.6%	0.8%	15.8%	3.3%		48.4%	100%
		Large hard furniture		36.2%	0.4%	1.3%	11.9%	1.1%		49.1%	100%
		Small hard furniture		13.3%	1.1%	0.5%	23.7%	7.5%		53.9%	100%
	Garden/Outdoor		0.3%	0.2%	0.5%	46.8%	21.5%	0.1%	30.5%	100%	
	Mixed	0.7%	4.0%	8.3%	6.8%	34.2%	27.7%	1.4%	16.8%	100%	

Table 17: Estimated arising of bulky items by material, in terms of weights of bulky items

	Theme and category	Ceramic	Chipboard/ wood composite	Fabric	Glass	Metal	Plastic	Rubber	Wood	Grand Total	
Weight of items (kg)	Fixtures and fittings	5,205	8,000	7	2,669	1,490	4,104	75	8,351	29,901	
		All furniture		22,045	11,832	591	10,396	1,781		40,894	87,539
		Large hard furniture		19,216	161	487	4,509	394		24,044	48,811
		Small hard furniture		2,575	153	104	3,916	1,179		9,143	17,070
		Garden/Outdoor		45	32	53	6,487	2,945	20	5,067	14,699
		Mixed	88	606	988	1,027	4,384	4,069	162	2,801	14,147
% weight of items	Fixtures and fittings	17.4%	26.8%	0.0%	8.9%	5.0%	13.7%	0.3%	27.9%	100%	
	Furniture	All furniture		25.2%	13.5%	0.7%	11.9%	2.0%		46.7%	100%
		Large hard furniture		39.4%	0.3%	1.0%	9.2%	0.8%		49.3%	100%
		Small hard furniture		15.1%	0.9%	0.6%	22.9%	6.9%		53.6%	100%
		Garden/Outdoor		0.3%	0.2%	0.4%	44.1%	20.0%	0.1%	34.5%	100%
		Mixed	0.6%	4.3%	7.0%	7.3%	31.0%	28.8%	1.1%	19.8%	100%

7.0 Comparison between kerbside and HWRC collections

The two pie charts below show that 52% of bulky waste collected at the kerbside consists of furniture whereas this figure is only 36% at HWRCs. More fixtures and fittings, garden and outdoor and miscellaneous (mixed) items were disposed of at HWRCs than at the kerbside.

Figure 14: Average bulky waste arisings by theme, bulky waste collections (% by weight)

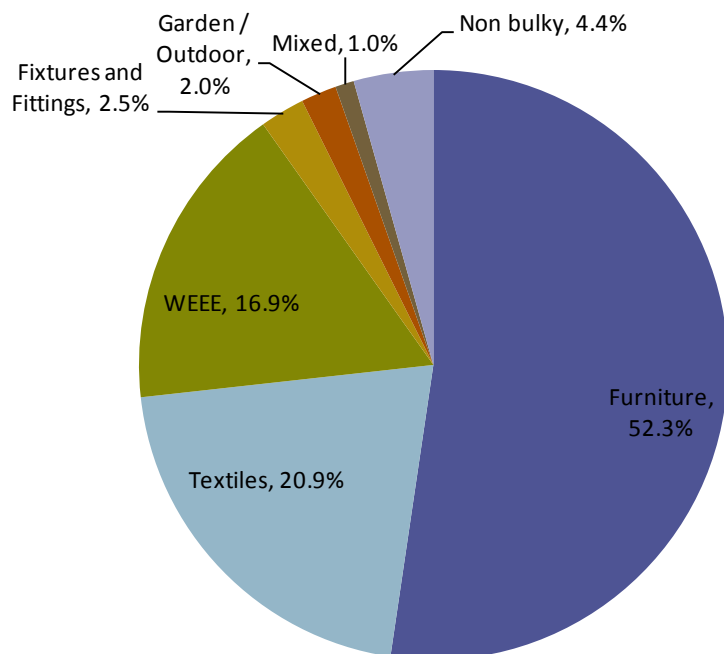
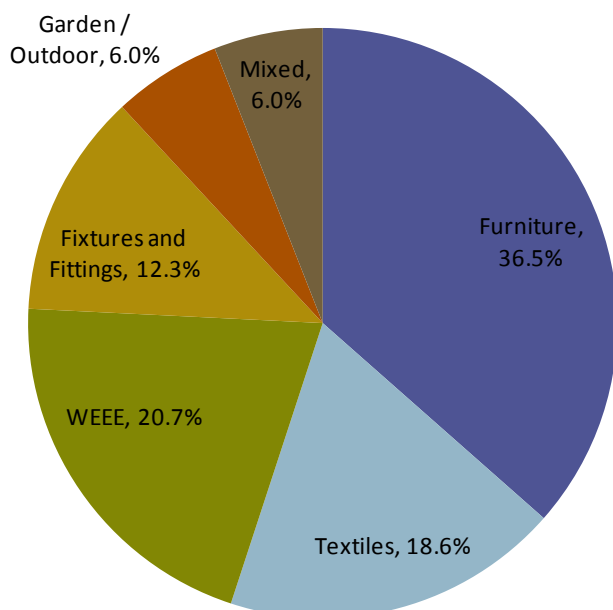


Figure 15: Average bulky items arisings by theme, HWRCs (% by weight)



8.0 Theme findings

The data in this section relate to fieldwork carried out during January and February 2012.

8.1 Furniture

It is worth noting at the outset that there are some items within the furniture categories that appear to be duplicates. This is because an item may be small or large hard furniture, for example a table, or even large hard furniture and soft furniture in the case of beds (divan beds are recorded as soft furniture). This reflects the WRAP Category list (see Appendix 1) which aims to standardise the categorisation of items across all WRAP projects.

8.1.1 Key products

Key products within HWRC large furniture were wardrobes, beds and chests of drawers. Smaller chests of drawers and chairs were the two small hard furniture products arising in greatest numbers. Sofas, armchairs and divan (fabric) beds were the largest product items arising within the soft furniture category. More detail for each of the furniture categories is provided below.

8.1.2 Category information

The furniture theme is split into large and small hard furniture, soft furniture, gas appliances and soft furnishings. Category data for the three main categories (large and small hard furniture, soft furniture) are discussed below.

Figure 16: Large hard furniture at HWRCs (% count)

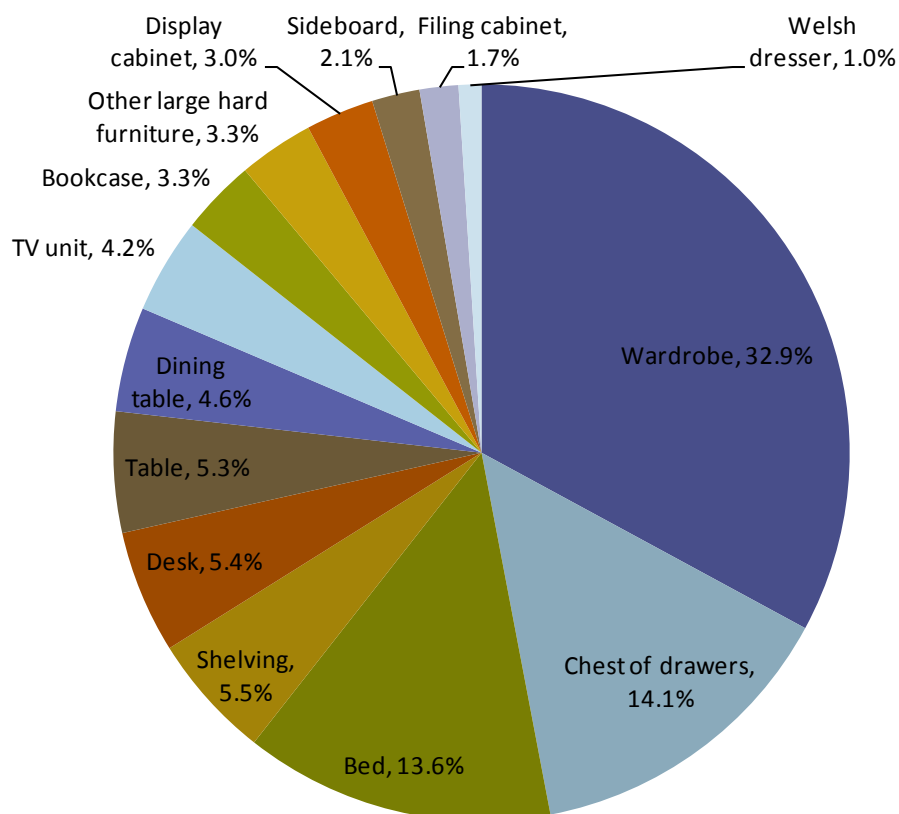


Table 18: Large hard furniture at HWRCs

Large hard furniture	Count	Sum of weight (kg)	% of category, by weight
Bed	287	7,398	13.6%
Bookcase	85	1,785	3.3%
Chest of drawers	284	7,654	14.1%
Desk	137	2,955	5.4%
Dining table	86	2,494	4.6%
Display cabinet	81	1,620	3.0%
Filing cabinet	31	947	1.7%
Shelving	148	2,992	5.5%
Sideboard	33	1,131	2.1%
Table	207	2,862	5.3%
TV unit	137	2,281	4.2%
Wardrobe	381	17,887	32.9%
Welsh dresser	6	552	1.0%
Other large hard furniture	96	1,791	3.3%

Figure 17: Small hard furniture at HWRCs (% count)

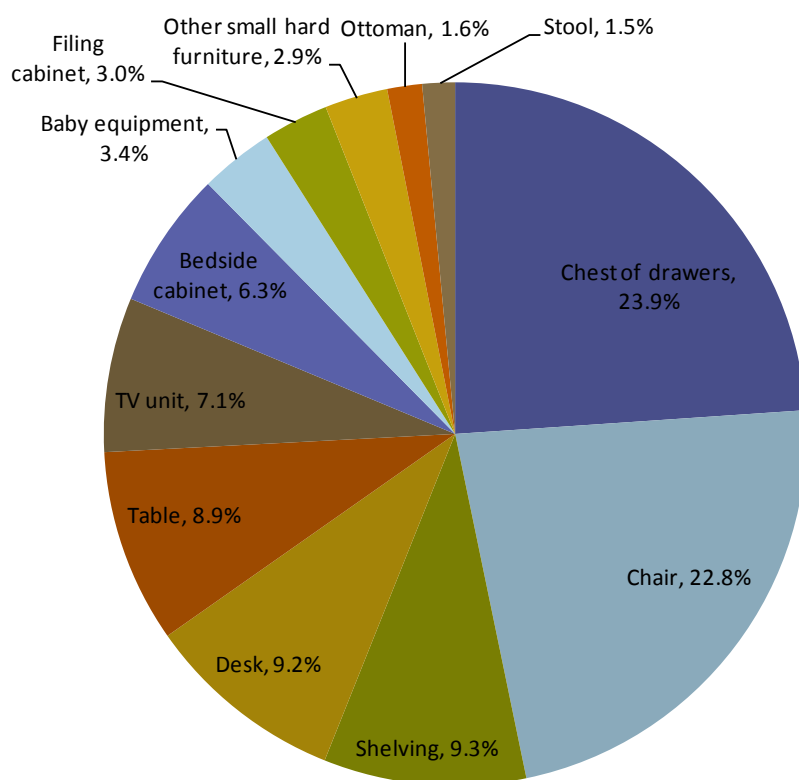


Table 19: Small hard furniture at HWRCs

Small hard furniture	Count	Sum of weight (kg)	Percentage of category
Baby equipment	83	1,092	3.4%
Bedside cabinet	144	2,016	6.3%
Chair	526	7,304	22.8%
Chest of drawers	284	7,654	23.9%
Desk	137	2,955	9.2%
Filing cabinet	31	947	3.0%
Ottoman	46	506	1.6%
Shelving	148	2,992	9.3%
Stool	97	489	1.5%
Table	207	2,862	8.9%
TV unit	137	2,281	7.1%
Other small hard furniture	111	917	2.9%

Figure 18: Soft furniture at HWRCs (by count)

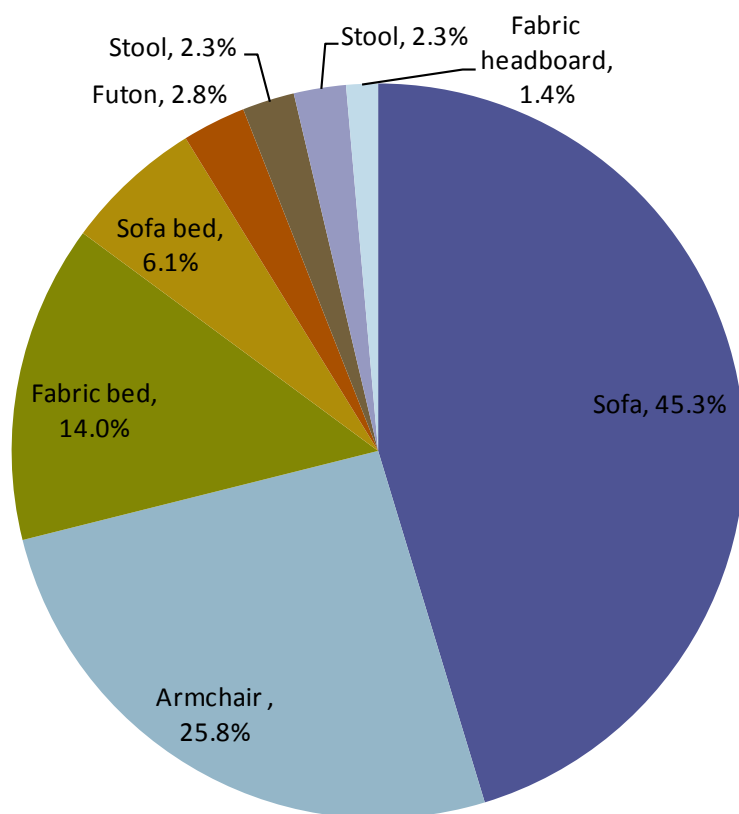
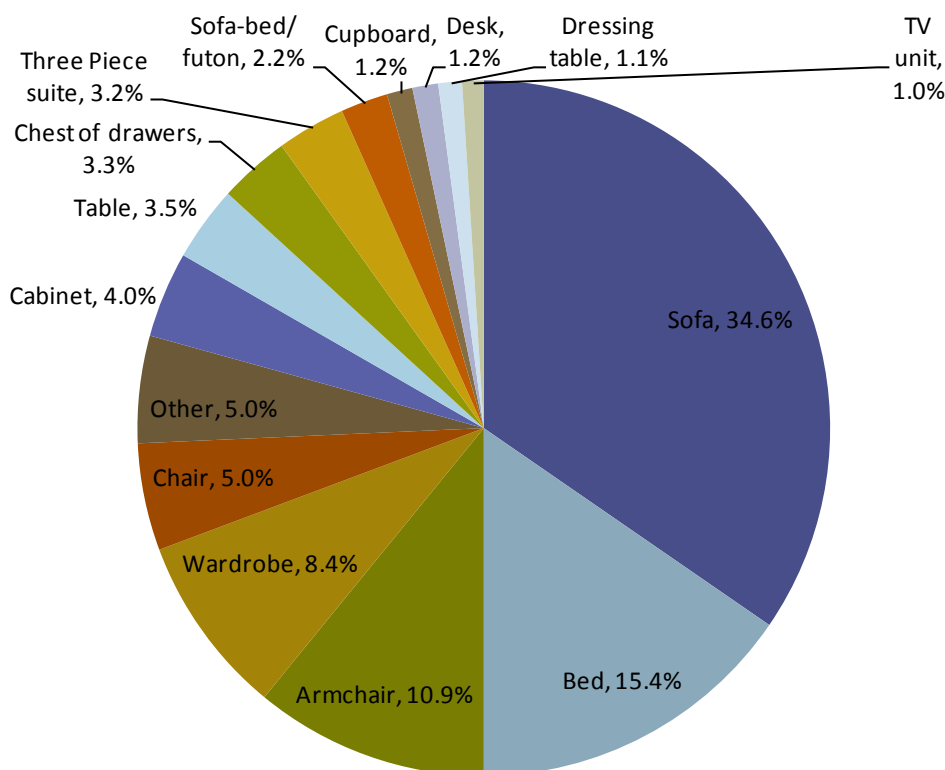


Table 20: Soft furniture at HWRCs

Soft furniture	Count	Sum of weight (kg)	Percentage of category
Sofa	246	9,647	45.3%
Sofa bed	24	1,300	6.1%
Stool	97	489	2.3%
Armchair	204	5,508	25.8%
Futon	26	602	2.8%
Fabric headboard	27	297	1.4%
Stool	97	489	2.3%
Fabric bed	124	2,976	14.0%

Despite more furniture being collected at the kerbside, it consisted of fewer different items. This may simply be because the data recorded was not as accurate and therefore could not be split into different categories or items. For example it is not possible to segregate divan beds and those that are wood or metal frames or the size of the chest of drawers into small or large hard furniture due to the level of detail included in the call records. Therefore all furniture products are displayed in Figure 19.

Figure 19: Furniture products collected in kerbside bulky waste, percentage arising by weight



8.1.3 Additional information (e.g. soiling)

The five main soft furniture items (sofa, armchairs, sofa beds and fabric beds and headboards) were visually assessed for soiling at HWRCs. Within the category, one quarter of all soft furniture was assessed as very clean and a further third as fairly clean with only slight soiling. Additional details for the five main items within this category are provided in Table 21.

Figure 20: Level of soiling within the soft furniture category at HWRCs

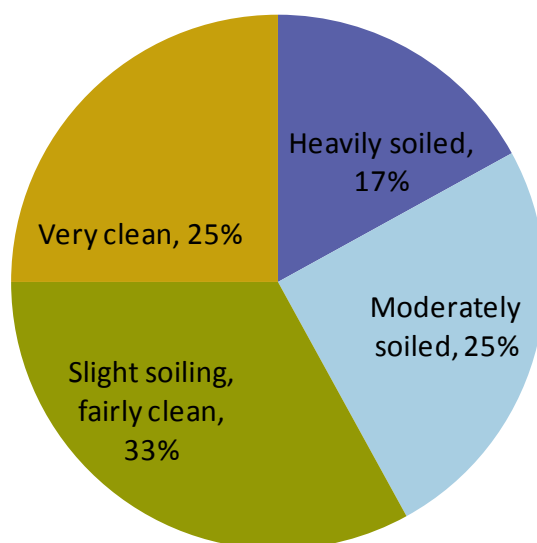
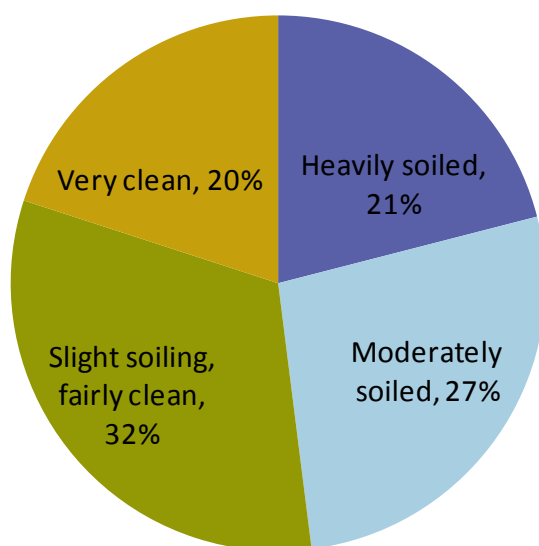


Table 21: Level of soiling of different soft furniture items at HWRCs

		Armchair	Fabric bed	Fabric headboard	Sofa	Sofa bed
Count	Heavily soiled	29	23	2	52	4
	Moderately soiled	47	35	8	66	5
	Slight soiling, fairly clean	72	40	7	79	8
	Very clean	54	26	10	49	7
Breakdown by count	<i>Heavily soiled</i>	<i>14.2%</i>	<i>18.5%</i>	<i>7.4%</i>	<i>21.1%</i>	<i>16.7%</i>
	<i>Moderately soiled</i>	<i>23.0%</i>	<i>28.2%</i>	<i>29.6%</i>	<i>26.8%</i>	<i>20.8%</i>
	<i>Slight soiling, fairly clean</i>	<i>35.3%</i>	<i>32.3%</i>	<i>25.9%</i>	<i>32.1%</i>	<i>33.3%</i>
	<i>Very clean</i>	<i>26.5%</i>	<i>21.0%</i>	<i>37.0%</i>	<i>19.9%</i>	<i>29.2%</i>
Estimated weight (kg)	Heavily soiled	783	561	22	2,029	216
	Moderately soiled	1,269	804	88	2,592	270
	Slight soiling, fairly clean	1,944	963	77	3,098	433
	Very clean	1,458	648	110	1,928	379
Breakdown by weight	<i>Heavily soiled</i>	<i>14.2%</i>	<i>18.9%</i>	<i>7.4%</i>	<i>21.0%</i>	<i>16.7%</i>
	<i>Moderately soiled</i>	<i>23.0%</i>	<i>27.0%</i>	<i>29.6%</i>	<i>26.9%</i>	<i>20.8%</i>
	<i>Slight soiling, fairly clean</i>	<i>35.3%</i>	<i>32.4%</i>	<i>25.9%</i>	<i>32.1%</i>	<i>33.3%</i>
	<i>Very clean</i>	<i>26.5%</i>	<i>21.8%</i>	<i>37.0%</i>	<i>20.0%</i>	<i>29.2%</i>

As sofas were a significant item in terms of both number brought to site and contribution to the weight of bulky waste, and the cleanliness of sofas has been further detailed in Figure 21 below. The fieldwork suggests that at each site there are, on average, about three to four clean sofas disposed of per week.

Figure 21: Cleanliness of sofas at HWRCs



As well as the cleanliness of soft furniture and mattresses, it is important for these items to have intact fire labels if the items are to be re-used. The site surveyors attempted to observe the fire labels of each item, the results of which are shown in Figure 22.

Figure 22: Fire labels on soft furniture at HWRCs (% by weight)

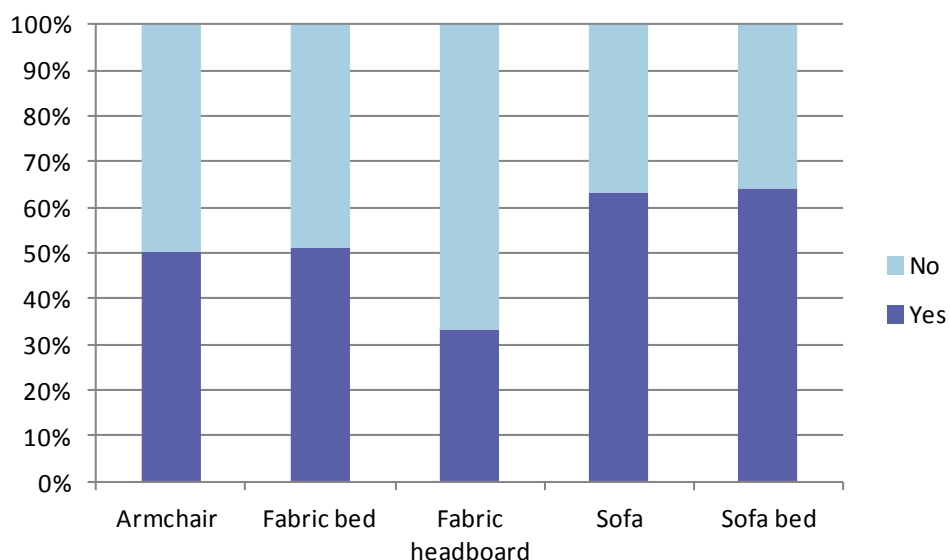


Table 22 shows the presence of fire labels on the five most common types of soft furniture.

Table 22: Presence of fire labels on soft furniture at HWRCs

		Armchair	Fabric bed	Fabric headboard	Sofa	Sofa bed
Count	Yes	64	34	5	98	9
	No	63	32	10	58	5
Breakdown by count	Yes	50.4%	51.5%	33.3%	62.8%	64.3%
	No	49.6%	48.5%	66.7%	37.2%	35.7%
Estimated weight (kg)	Yes	1,728	804	55	3,851	488
	No	1,701	765	110	2,251	271
Breakdown by weight	Yes	50.4%	51.2%	33.3%	63.1%	64.3%
	No	49.6%	48.8%	66.7%	36.9%	35.7%

8.2 Textiles

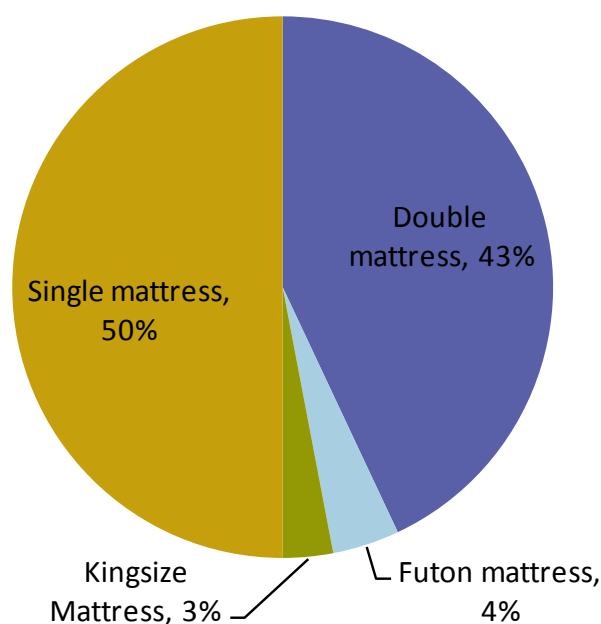
8.2.1 Key products

The key products within this theme were carpet and mattresses. It is worth noting that it is likely that in previous published research, mattresses are categorised as soft furniture and therefore caution should be exercised when attempting a direct comparison with data from elsewhere.

8.2.2 Category information

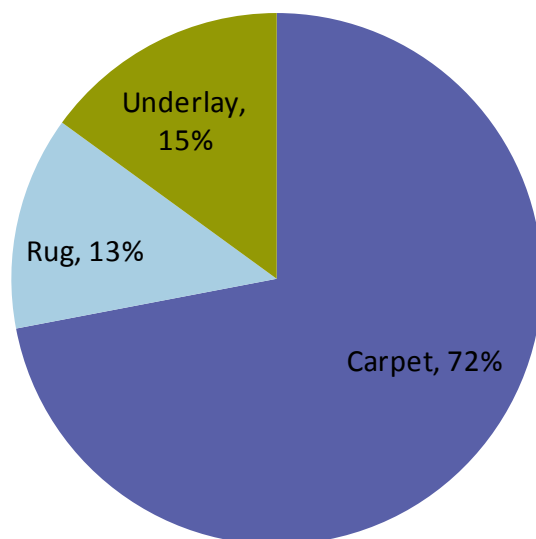
Mattresses were another item that was collected at HWRCs in large numbers. The HWRC and bulky waste collection fieldwork has allowed us to understand the number of each type of mattress that are disposed of. Half of all mattresses disposed of at HWRCs are single and 43% are double sized.

Figure 23: Proportion of mattresses disposed of at HWRCs



Large amounts of carpet are also disposed of at HWRCs. An estimated weight has been applied to each roll of carpet that was brought to site; although this relies on assuming average dimensions for these items, with assumed dimensions for carpets of 12 foot x 12 foot; and 3 foot x 6 foot for rugs.

Figure 24: Carpet, rugs and underlay disposed of at HWRCs (by weight)



8.2.3 Additional information

In addition to the visual assessment of re-use potential discussed earlier in the report, the cleanliness of textiles was recorded, as was the presence of fire labels. 56% (by weight) of all mattresses had visible fire labels. This is broken down by mattress size in Figure 25 and more detail is provided in Table 23.

Figure 25: Fire labels on mattresses at HWRCs (% by weight)

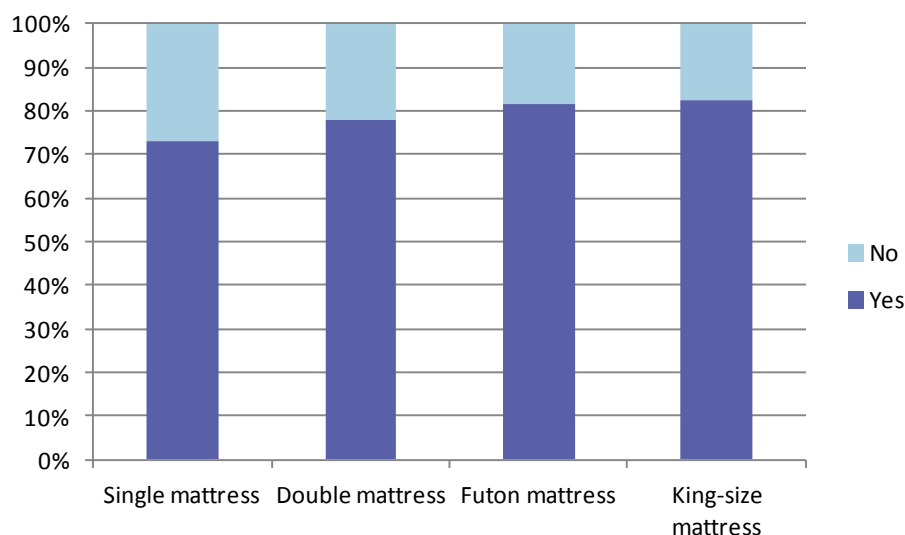


Table 23: Presence of fire labels on mattresses at HWRCs

		Single mattress	Double mattress	Futon mattress	King-size mattress
Count	Yes	186	168	16	14
	No	69	48	4	3
Breakdown by count	Yes	72.9%	77.8%	80.0%	82.4%
	No	27.1%	22.2%	20.0%	17.6%
Estimated weight (kg)	Yes	3,906	6,720	374	700
	No	1,449	1,920	84	150
Breakdown by weight	Yes	72.9%	77.8%	81.7%	82.4%
	No	27.1%	22.2%	18.3%	17.6%

Figure 26 below shows that over 25% of all mattresses were assessed (visual inspection) as being very clean. Investigating this further, Figure 27 shows that double mattresses tended to be cleaner than all other sizes, and futon mattresses were more heavily soiled than all others.

Figure 26: Cleanliness of all mattresses at HWRCs

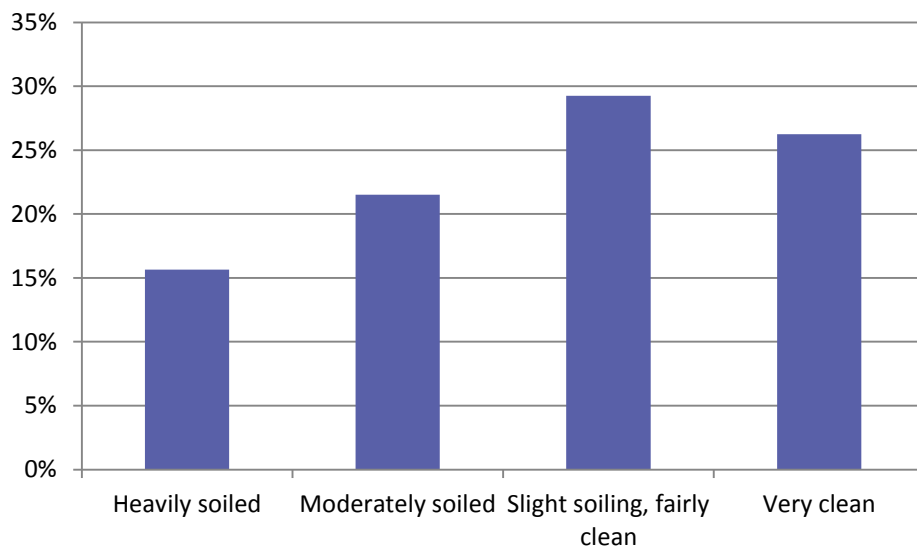
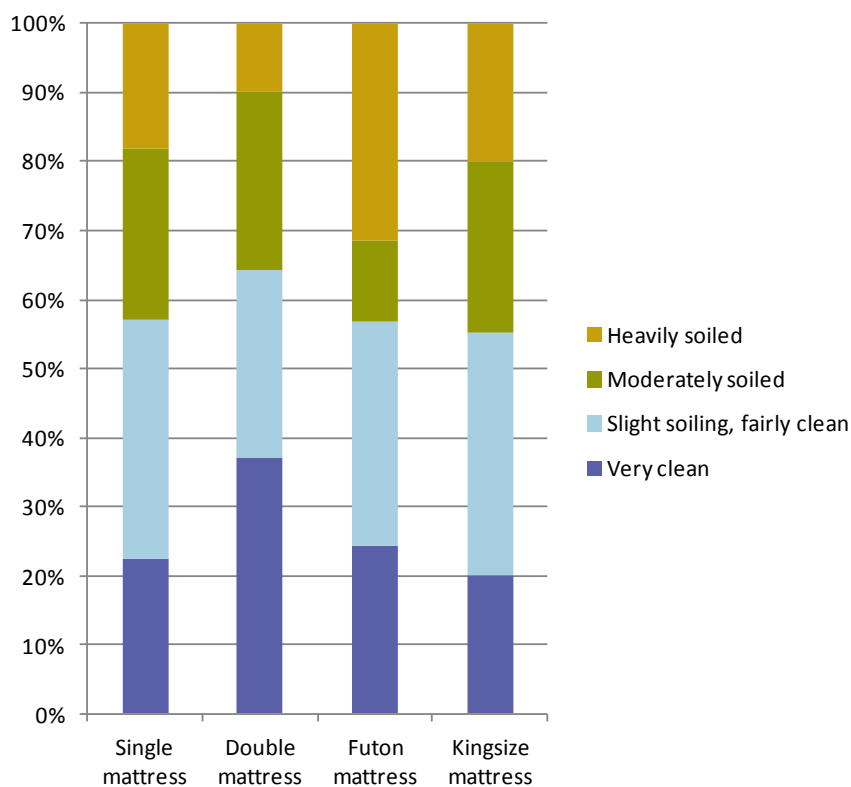


Figure 27: Cleanliness of mattresses at HWRCs, by size



The cleanliness of carpet and rugs was also assessed. Nearly one quarter of both carpet and rugs was heavily soiled, moderately soiled, fairly clean and very clean. Table 24 provides more detail.

Figure 28: Cleanliness of carpet, rugs and underlay at HWRCs

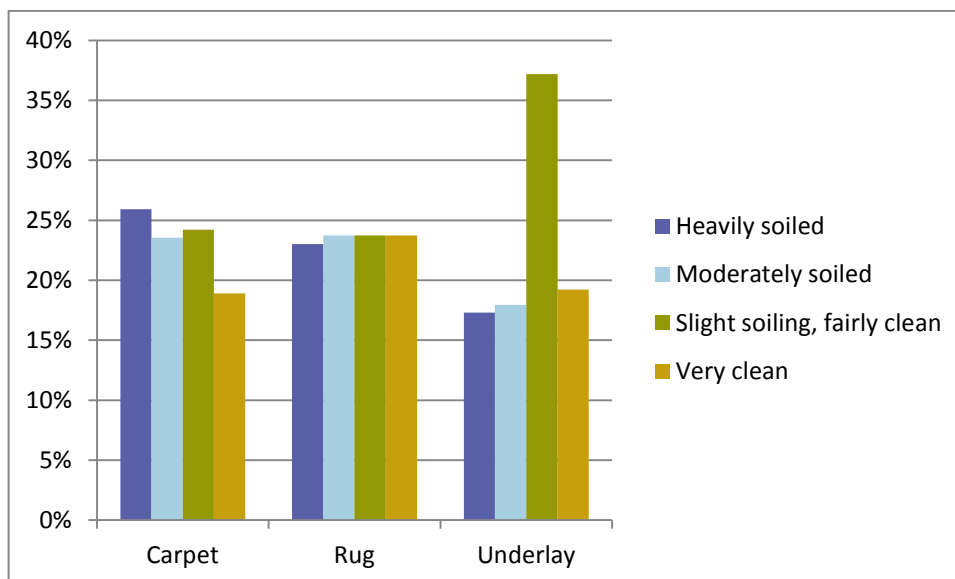


Table 24: Cleanliness of carpet, rugs and underlay at HWRCs

		Carpet	Rug	Underlay
Count	Heavily soiled	196	32	27
	Moderately soiled	178	33	28
	Slight soiling, fairly clean	183	33	58
	Very clean	143	33	30
Percentage count	<i>Heavily soiled</i>	28.0%	24.4%	18.9%
	<i>Moderately soiled</i>	25.4%	25.2%	19.6%
	<i>Slight soiling, fairly clean</i>	26.1%	25.2%	40.6%
	<i>Very clean</i>	20.4%	25.2%	21.0%
Estimated weight (kg)	Heavily soiled	4,900	160	675
	Moderately soiled	4,450	165	700
	Slight soiling, fairly clean	4,575	165	1,450
	Very clean	3,575	165	750
Breakdown by weight	<i>Heavily soiled</i>	28.0%	24.4%	18.9%
	<i>Moderately soiled</i>	25.4%	25.2%	19.6%
	<i>Slight soiling, fairly clean</i>	26.1%	25.2%	40.6%
	<i>Very clean</i>	20.4%	25.2%	21.0%

It is also possible to review whether the cleanliness of an item is related to the presence, or not, of fire labels. The following table 25 shows that if an item did not have a label present there was a mixture of cleanliness logged with no particular pattern or trend emerging. But where a fire label was logged as present on a product, there seemed to be a much greater percentage that were classified as fairly or very clean (67% for both furniture and textiles).

Table 25: Presence of fire labels and cleanliness of items at HWRCs (count and percentage)

Count and percentage of item summary								
	Heavily soiled		Slight soiling		fairly clean		Very clean	
No – label not present								
Furniture	37	20%	52	28%	53	28%	47	25%
Textiles	205	27%	174	23%	225	30%	144	19%
Yes – label present								
Furniture	25	11%	45	21%	86	39%	62	28%
Textiles	42	10%	96	23%	132	31%	151	36%

8.3 WEEE

8.3.1 Key products

Within the kerbside bulky waste collections, fridge-freezers, washing machines and cookers were the items most commonly set out for collection followed by televisions, freezers and fridges. The type of WEEE items collected at HWRCs is different to those collected at the kerbside. 40% of WEEE items are televisions. Microwaves, washing machines, cookers and fridge freezers all account for more than 5% of the WEEE items at HWRCs. The diversity of items taken to the HWRC is much larger than collected at the kerbside. 44 different items make up the 10% all other WEEE category. These 44 items were each less than 1% of the total weight of WEEE items at HWRCs; see Figure 30.

Figure 29: WEEE items collected at the kerbside (by weight)

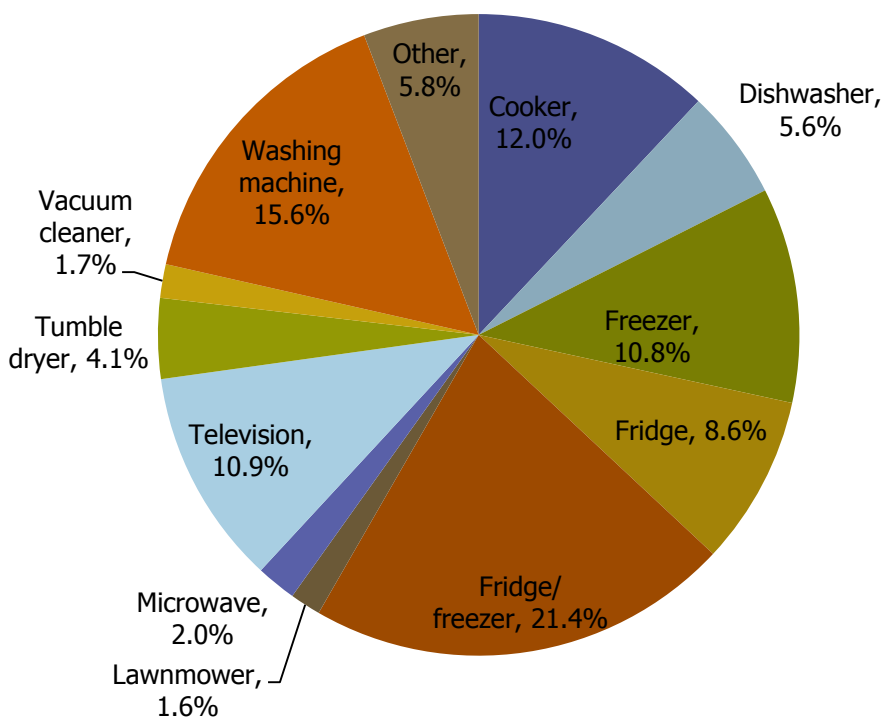
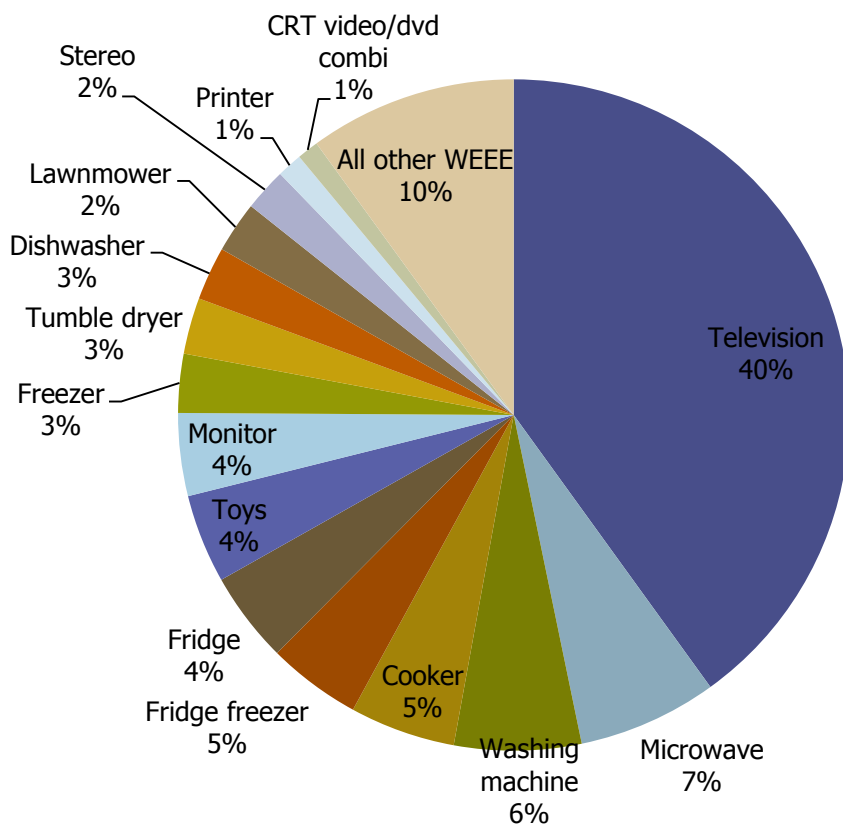


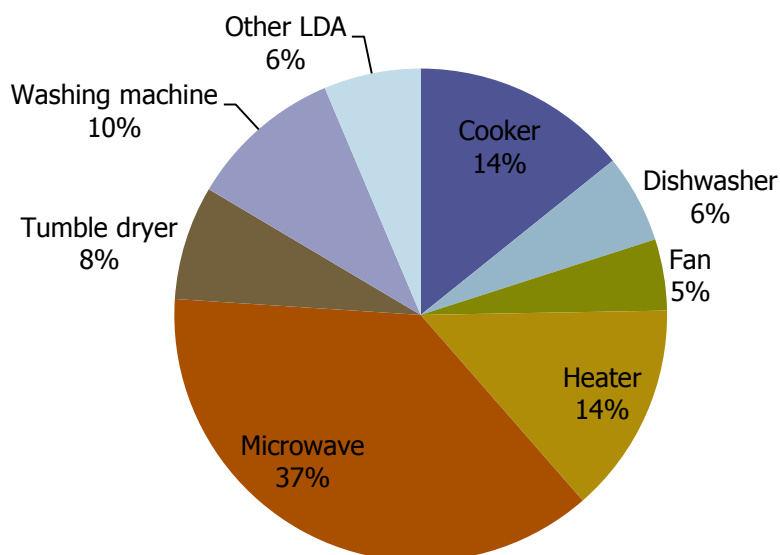
Figure 30: WEEE items collected at HWRCs (by weight)



8.3.2 Category information

More detail has been provided below for the three main WEEE categories; large domestic appliances, display equipment and cooling equipment collected at HWRCs and within the kerbside bulky waste.

Figure 31: Large domestic appliances at HWRCs (% count)



Microwaves and electric heaters were the two types of item most commonly disposed of at HWRCs. This is likely to be because of the relative convenience of disposing of these smaller large appliances than for examples washing machines. The arisings of large appliances may also reflect the fact that items such as washing machines may be more likely to be collected by retailers through reverse vending when a new item is delivered. Table 26 shows further details of the breakdown of the large domestic appliance category. Washing machines, microwaves and cookers all contribute 20% or more by weight to this category.

Table 26: Large domestic appliances collected at the HWRC

Category 1: large domestic appliances	Count	Sum of weight (kg)	Percentage of category by weight
Cooker	76	2,877	20.0%
Dishwasher	31	1,457	10.1%
Fan	25	236	1.6%
Heater	74	405	2.8%
Microwave	200	3,800	26.4%
Tumble dryer	40	1,534	10.6%
Washing machine	54	3,458	24.0%
Other LDA	34	642	4.5%

Figure 32: Display equipment at HWRCs (% count)

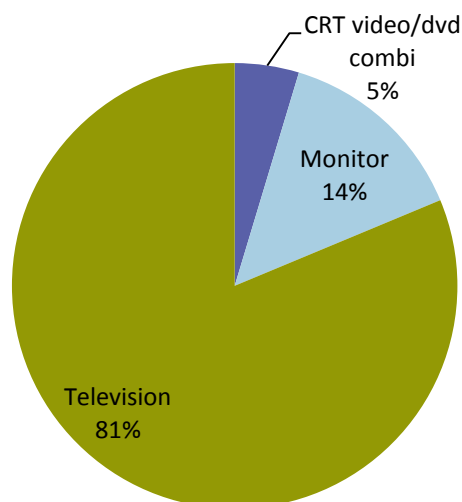


Table 27: Category 11: Display Equipment at HWRCs

	Count	Sum of weight (kg)	Percentage of category
CRT video/dvd combi	53	583	2.3%
Monitor	160	2,254	8.8%
Television	925	22,645	88.9%

The size of the televisions and whether they were a CRT or flat-screen television were recorded, see Table 27 and 28. 90% of televisions taken to HWRCs are CRTs and 25% of all televisions are CRT televisions that have less than 14 inch screen, commonly referred to as portable televisions. 18% of all televisions are CRT televisions that are more than 32 inches.

Table 28: Size and type of display equipment at HWRCs (numbers of units)

Estimated size	Count of items		% of all televisions	
	CRT	Flat-screen	CRT	Flat-screen
<14"	273		25.2%	0.0%
15"	150		13.8%	0.0%
17"	89	37	8.2%	3.4%
19"	102	19	9.4%	1.8%
21"	166		15.3%	0.0%
22-24"		10	0.0%	0.9%
26-30"		13	0.0%	1.2%
32-37"	196	18	18.1%	1.7%
40-46"		8	0.0%	0.7%
>46"		4	0.0%	0.4%
TOTAL	976	109		

The same information, by weight, is show in Table 29.

Table 29: Size and type of display equipment at HWRCs (by weight, kg)

Estimated size	CRT	Flat-screen	<i>CRT</i>	<i>Flat-screen</i>
<14"	3,195		12.8%	0.0%
15"	2,163		8.7%	0.0%
17"	1,466	183	5.9%	0.7%
19"	2,339	137	9.4%	0.5%
21"	5,002		20.1%	0.0%
22-24"		72	0.0%	0.3%
26-30"		144	0.0%	0.6%
32-37"	9,511	313	38.2%	1.3%
40-46"		176	0.0%	0.7%
>46"		200	0.0%	0.8%
	23,676	1,223	95.1%	4.9%

The same data was recorded for televisions collected by the bulky waste collection crews; see Table 30 and Table 31 below. Again 90% of all televisions collected were CRTs, however taking account of the weight of the items, 96% of televisions were CRTs

Table 30: Size and Type of Display Equipment in kerbside collections (by units)

Estimated size	CRT	Flat-screen	<i>CRT</i>	<i>Flat-screen</i>
<14"	9		19.1%	0.0%
15"	2	3	4.3%	6.4%
17"	9		19.1%	0.0%
19"	9	1	19.1%	2.1%
21"	3		6.4%	0.0%
24"	2		4.3%	0.0%
30"		1	0.0%	2.1%
32"	8		17.0%	0.0%
Grand Total	42	5	89.4%	10.6%

Table 31: Size and type of display equipment in kerbside collections (by weight, kg)

Estimated size	CRT	Flat-screen	<i>CRT</i>	<i>Flat-screen</i>
<14"	111		11.6%	0.0%
15"	28	13	2.9%	1.4%
17"	144		15.0%	0.0%
19"	207	6	21.5%	0.7%
21"	93		9.7%	0.0%
24"	62		6.5%	0.0%
30"		11	0.0%	1.2%
32"	285		29.7%	0.0%
Grand Total	930	31	96.8%	3.2%

Fridges accounted for 44% of all the cooling appliances collected at HWRCs, in terms of the number of units collected.

Figure 33: Cooling equipment at HWRCs (% count)

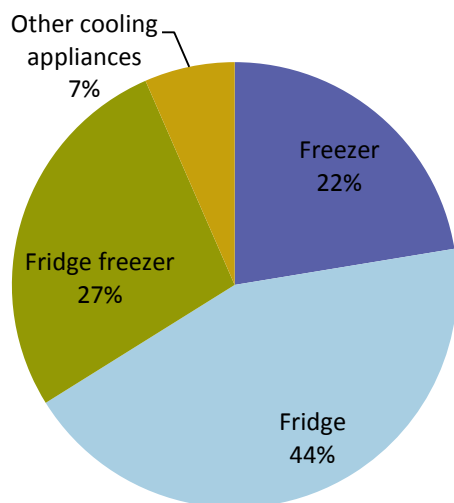


Table 32: Cooling appliances at HWRCs

Category 12: Cooling appliances	Count	Sum of weight (kg)	% of category by weight
Freezer	41	1,603	23.4%
Fridge	80	2,476	36.1%
Fridge freezer	50	2,550	37.2%
Other cooling appliances	12	222	3.2%

Of the cooling appliances collected at the kerbside, 55% (by weight) were fridge-freezers, this is considerably more than is collected at the HWRCs. Similar reasoning can be applied to this as to the large domestic appliances in that the smaller items (e.g. under-counter fridges) are easier to transport to an HWRC than a fridge-freezer. Figure 34 shows the breakdown in terms of the number of items collected.

Figure 34: Cooling appliances collected at the kerbside (units)

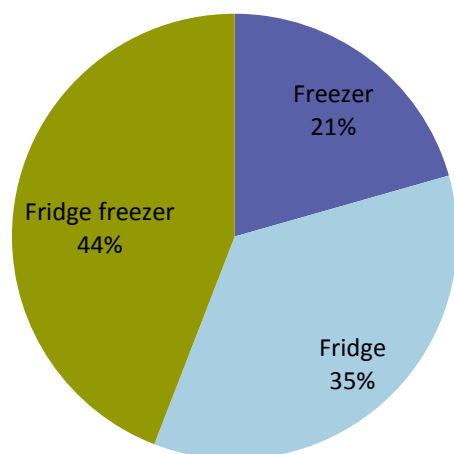


Table 33: Cooling appliances at kerbside

Category 12: Cooling appliances	Count	Sum of weight (kg)	% of category by weight
Freezer	7	263	19.0%
Fridge	12	358	25.8%
Fridge freezer	15	765	55.2%

8.3.3 Additional information

Plugs and cables should not be removed from electrical equipment. Having an intact cable and plug is important for re-use and therefore all WEEE items were assessed for both plugs and intact cables. When the item was delivered to the HWRC by the resident, 79% of all WEEE had both a cable and plug. 10% had neither and 9% had the plug removed but did have a cable.

Figure 35: Presence of cables and plugs on all WEEE items at HWRCs

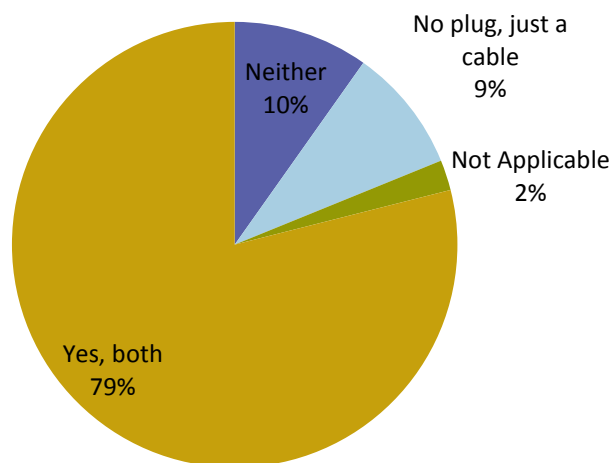


Table 34: Presence of cables and plugs on WEEE

	Count	Percent by count	Estimated weight (kg)	Percent by weight
Neither	257	10.4%	5,163	9.8%
No plug, just a cable	219	8.9%	4,762	9.0%
Not Applicable	85	3.4%	1,159	2.2%
Yes, both	1873	76.0%	41,565	78.5%
No data	32	1.3%	298	0.6%
Grand Total	2466	100%	52,946	100%

9.0 Local authority findings

Detailed findings per local authority have not been included in this report. Each local authority that participated in the research has received an individual report of the findings from their call log data or HWRC. The two figures below show the HWRC and bulky waste call log data composition by theme for each local authority. The local authorities have been anonymised.

Figure 36: Composition by theme for each local authority HWRC (by weight)

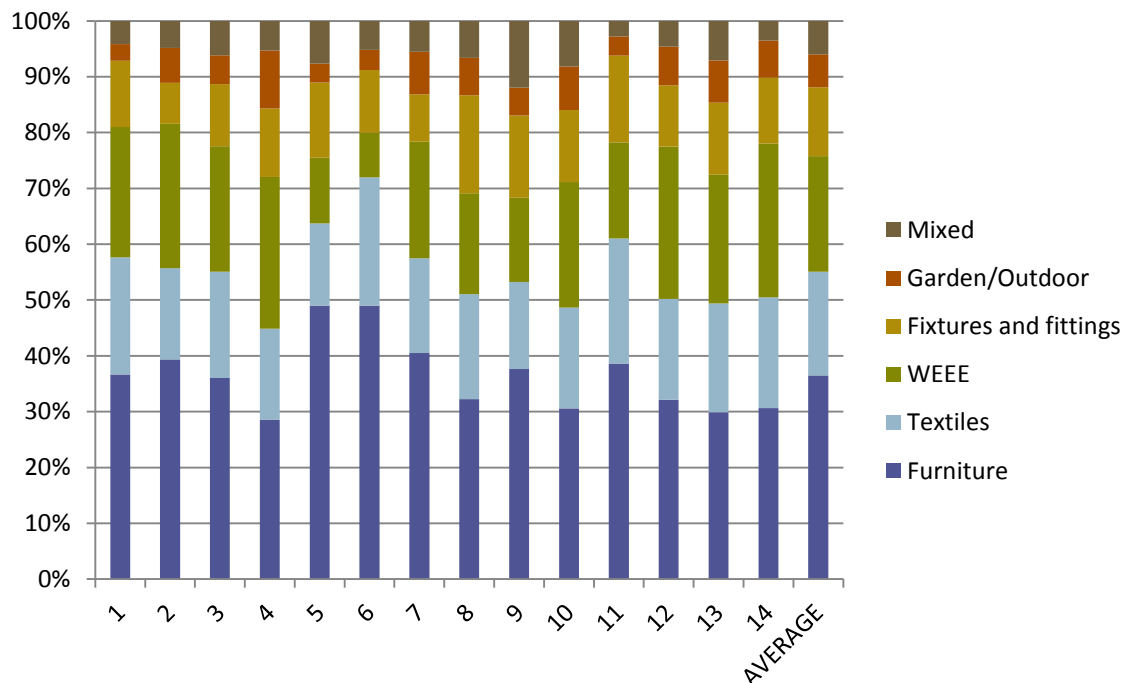
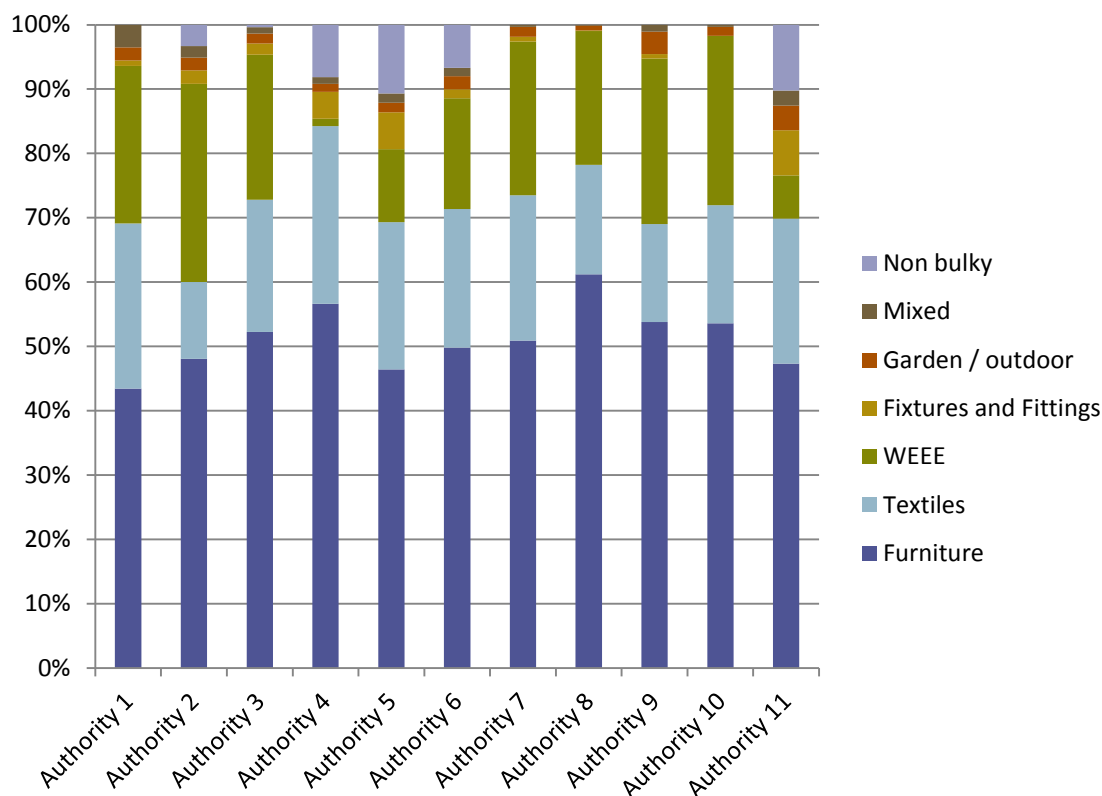


Figure 37: Kerbside bulky waste composition, breakdown by theme per local authority



Appendix 1: Category list

The category list used for this study is shown in Table 37.

Table 37: Category list for bulky waste items

Theme	Main Category	Sub Categories														
WEEE	Cat 1: large household appliances	microwaves	electric heating appliances	radiators	washing machines	clothes dryers	dish washing machines	cooker	electric stoves	electric hot plates	free standing fans	cooker hood				
WEEE	Cat 2: Small household appliances	vacuum cleaners	carpet sweepers	other cleaning appliances	appliances for sewing, knitting etc..	irons	toasters	fryers	grinders, coffee machines	electric knives	appliances for hair cutting and drying	clocks, watches etc..	tooth brushes	shaving and personal grooming	Sun bed	
WEEE	Cat 3: IT and telecommunications equipment	mainframes	mini computers	printers	copying equipment	electronic typewriters	pocket and desk calculators									
WEEE	Cat 4: Consumer Equipment	radio sets	musical instruments	video cameras	hi-fi recorders	audio amplifiers										
WEEE	Cat 5: Lighting Equipment	Luminaires for fluorescent lamps	straight fluorescent lamps	compact fluorescent lamps	low pressure sodium lamps	other lighting or equipment										
WEEE	Cat 6: Tools	drills	saws	sewing machines	equipment for turning, sanding, grinding, sawing, making holes etc..		tools for riveting, nailing, screwing etc..		tools for welding, soldering etc..		equipment for spraying, spreading etc...		tools for mowing or other gardening activities			
WEEE	Cat 7: Toys, leisure and sports equipment	electric trains or car racing sets	hand held video games consoles	video games	computers for biking, diving, running etc..		sports equipment	coin slot machines								
WEEE	Cat 8: Medical devices															
WEEE	Cat 9: Monitoring and control instruments	smoke detector	heating regulators	thermostats												
WEEE	Cat 10: Automatic dispensers															
WEEE	Cat 11: Display Equipment	television sets	computer screens													
WEEE	Cat 12: Cooling Appliances	refrigerators	freezers	air conditioning units												
WEEE	Cat 13: Gas Discharge Lamps															

Theme	Main Category	Sub Categories														
Furniture	Gas appliances (may have element of WEEE)	gas fires	gas hob	gas oven												
Furniture	Large hard furniture	single wardrobe	double wardrobe	display cabinet	bookcase	chest of drawers	dining table	large desk	dressing table	TV Unit	piano	sideboard	welsh dresser	bunk bed/cabin bed	bed-base single	bed-base double
Furniture	Small hard furniture	chair	bedside table/unit	desk/computer table	headboard	small side table	bench	storage box/ottoman/blanket box	fire surround	cot	highchair	stair gate	filing cabinet	divider (room or desk)	radiators	
Garden/Outdoor	Garden/Outdoor	bench	table	chair	garden swing seat or climbing frame	bicycles	sheds	BBQ	gas appliances (outdoor)	non electrical tools (including ladders)	fence panels	gates	Animal huts/kennels	wheel barrow		
Fixtures and Fittings (permanent)	Fixtures and Fittings (permanent)	baths	toilets	kitchen units	baths and showers	sink (including vanity units)	toilet	External doors	Internal doors							
Furniture	Soft furniture – all sizes	armchair (including recliners)	fabric bed-base	2 seater sofa	3 seater sofa	futon/Z bed	headboard (fabric)	foot stool	fabric bed-base (with electric component)							
Textiles	Clothing	underwear	tops	nightwear	underwear	bottoms	jackets/coats	dresses	suits	sportswear						
Textiles	Household textiles/linen	curtain	bedding	table cloth	blankets	toilet/kitchen linen	cleaning cloths	blinds								
Textiles	Footwear and Accessories	hand bag	shoes	sports shoes	gloves	hats	scarves	ties								
Textiles	Carpets and rugs	carpet (including off cuts and samples)	rug	underlay												
Textiles	Leisure textiles	tent	sleeping bag	tarpaulins	sails	parachutes	sun blinds		.							
Textiles	Mattresses	single	double						.							
Textiles	Soft Furnishings	cushion	pillow	sofa cushions					.							
Mixed	Other	bric a brac	toys/games (non electric)	pram/pushchair	windows and doors	small fixtures and fittings (e.g. brackets)	clocks (including grandfather)	boiler		non electric leisure equipment	wheelchair	Plastic Christmas tree	Rotary clothes line	car seat	fish tank	ironing board

Appendix 2: Local authority list

Bulky waste collection policies for the local authorities providing kerbside bulky waste collection call log data to this project are summarised in Table 38.

Table 38: Summary of bulky waste collection policies for authorities providing call log data

Local authority	BWC charging policy	Minimum charge	Max items per collection	FRO in the area
Authority 1	<i>nd</i>	<i>nd</i>	<i>nd</i>	<i>nd</i>
Authority 2	Charged	£40	3	Yes
Authority 3	Charged	£15	3	No
Authority 4	Charged	£20	5	Yes
Authority 5	Charged	£10	no limit	Yes
Authority 6	Charged	£17	6	Yes
Authority 7	Free	---	3	Yes
Authority 8	Charged	<i>nd</i>	<i>nd</i>	Yes*
Authority 9	Charged	£32	5	Yes
Authority 10	Charged	£17	3	Yes
Authority 11	Free	---	<i>nd</i>	Yes

*The FRO performs the collection on behalf of the local authority

BWC = Bulky Waste Collections

FRO = Furniture Re-use Organisation

nd = no data

Appendix 3: FRN list of average weights

The FRN list of average weights for different types of bulky items is shown in Table 39.

Table 39: FRN list of average weights for bulky items

Category	Item	Average weight (kg)
Furniture and furnishings		
Furniture	Bedside unit, cabinet or table	14
	Bench, kitchen or garden, solid wood	30
	Blanket box, Ottoman	11
	Bookcase / Shelving Unit	21
	Cabinet (display & kitchen), Bureau	20
	Chair, Kitchen, Dining or Wooden	7
	Chest-of-Drawers, Tallboy	27
	Small Desk, Computer Table	20
	Large Desk	27
	Dressing table	34
	Fire surround	28
	Grandfather clock	64
	Headboard unit (with built-in bedside cabinets)	35
	Headboard	11
	TV / Hi-fi unit	17
	Piano	130
	Sideboard, not large	35
	Table small e.g. Cane, coffee, occasional, nest of	14
	Table, large e.g. dining	29
	Table, medium e.g. kitchen	23
	Wall unit	43
Wardrobe, double	55	
Wardrobe, single	37	
Welsh Dresser	92	
Home Office Furniture	Cabinet, large	77.5
	Filing cabinet, large	48
	Cabinet or filing cabinet, small	20
	Office Chair	12
	Office Desk	26
Soft Furniture	2 seater sofa	37
	3 seater sofa	42
	Armchair	27
	Recliner	51
	Bed, single complete (base, mattress + headboard)	53
	Bed, double complete (base, mattress + headboard)	78
	Bed, king-size complete (base, mattress + headboard)	91
	Bed base, single wood / divan / folding / Z bed	21
	Bed base, double wood / divan / folding / Z bed	27
	Bed base, king-size wood, divan or double metal	30
	Bunk bed / cabin bed	50
	Cane chair, bookcase	15
	Chair, easy, fireside, lounge, rocking	18

Category	Item	Average weight (kg)
	Chaise Longue	40
	Futon / Sofabed (wooden base with mattress)	35
	Mattress, single	21
	Mattress, double	40
	Mattress, king-size	50
	Pouffe / Stool	5
	Sofa bed, foam flop out	42.5
	Sofa bed, metal frame	85
	Sofa, cane / conservatory (normally with cushions)	20
Household		
Bric-a-Brac	Bric-a-Brac (small packet)	1
	Bric-a-Brac (box)	12
Children's Items	Cot	16
	High Chair	13
	Pram	14
	Pushchair	8
	Stair gate	3
	Toys, box	11
Leisure	Bike, adult	15
	Bike, child	10
Miscellaneous	Small misc, e.g. scales, saucepans, shoe racks, pedal bin, picture, magazine rack, fireguard, CD stand, picture frame, curtain pole, lampshade, suitcase, wine rack, Christmas tree	3
	Medium misc, e.g. tea trolley, ironing board, plant stand, coat or hat stand, small mirror, clothes horse,	6
	Large misc, e.g. carpet cleaner, large mirror, ladder, laundry basket, loose shelves	11
Carpets & Flooring		
Flooring	Carpet tiles, lino, carpet, flooring or underlay for standard room 12'x12'	25
	Small rug 3'x6'	5
Bedding & Window Dressings		
Bedding & window dressings	Pillow, pillow case	1
	Sheet	1.5
	Blanket, towel, throw, duvet cover	2
	Blinds (fabric), light or mid weight curtains	5
	Blinds (wood, metal), curtains (thick, lined)	7
Bathroom		
Bathroom Items	Bath (metal)	40
	Bath (non-metal)	25
	Bathroom Cabinet /Shower Screen	7
	Cistern	15
	Shower equipment/tray	15
	Sink (ceramic)	20
	Sink (metal)	20
	Toilet	30
Vanity Unit, including sink	29	
DIY & Garden		
DIY	Door (pvc)	20
	Door (wood)	15

Category	Item	Average weight (kg)
	Gate (metal)	30
	Gate (wood)	15
	Paint (5l)	6
	Patio door	30
	Tiles (ceramic), per square metre	30
	Window (wood)	15
	Window (glazed)	20
	Worktop (kitchen)	12
Garden	BBQ	15
	Chair (metal, plastic or wood)	7
	Lounger	15
	Rotary Drier	15
	Table (metal, plastic or wood)	20
	Tool (large) i.e. spade, fork	2
	Tool (small) i.e. trowel	1
	Waterbutt	11
Wheelbarrow	15	
Gas Appliances		
Gas Appliances	Cooker, gas	50
Gas Appliances	Hob, gas	20
Gas Appliances	Fire, gas	9
Electrical items		
Cat 1 - Large Household Appliances	Baby belling, counter top cooker, hostess trolley	24
	Cooker hood	9
	Cooker, electric	56
	Dishwasher	47
	Spin-Dryer	13
	Tumble-Dryer	39
	Twin-tub	42
	Washer Drier	69
Washing Machine	65	
Cat 2 - Small Household Appliances	Electric sewing machine	17
	Fan (electric)	10
	Fan heater	5
	Fire	16
	Hair & Beauty Elec i.e. hair dryer, foot massager, hair curlers, hair straighteners	1
	Hob, electric	8
	Medium elec - bread machine, video camera, trouser press	7
	Microwave	19
	Radiator	17.5
	Small elec - kettle, toaster, clock, sandwich maker, coffee maker, juicer, rice cooker ,steamer, iron, food mixer	2
Vacuum	13	
Cat 3 - IT & Telecommunications	Computer, base unit	10
	Laptop	3
	Mobile Phone & Accessories (hands free kit, charger)	0.5
	PC Accessories (keyboard, mouse)	1

Category	Item	Average weight (kg)
	PC Printers, Scanners, Shredder	7
	Photocopier	52
	Telecommunications equipment	5
	Word processor, Electric Typewriter	9
Cat 4 - Consumer Equipment	Hi-fi, integrated	11
	Hi-fi, separates (amplifier, cassette deck, CD player, radio, speakers)	5
	Video, DVD, Games Consoles, Digiboxes	12
Cat 5 - Lighting Equipment	Lamp / Light	1.5
Cat 6 - Electrical & Electronic Tools	Garden tools, electrical (small) i.e. strimmer, hedge cutter, garden vac	11
	Garden tools, electrical (large) i.e. lawnmower, shredder	13
	Power Tools i.e. drill, electric screwdriver	4
Cat 7 - Toys, leisure & sports	Musical Instruments i.e. keyboard, organ	31
	Sunbed	33
Cat 8 - Medical devices	Electric Armchair	54
	Electric Bed, double	200
	Electric Bed, single	100
	Electric Wheelchair	60
Cat 11 - Display Equipment	CRT-Monitor <14"	11
	CRT-Monitor 14"	13
	CRT-Monitor 15"	14
	CRT-Monitor 17"	16
	CRT-Monitor 19"	23
	CRT-Monitor 21"	31
	TV Portable or TV Combi	11
	Flat screen display 15-17"	4.4
	Flat screen display 19-20"	6.3
	Flat screen display 22-24"	7.2
	Flat screen display 26-30"	10.6
	Flat screen display 32-37"	17.0
Flat screen display 40-46"	22.0	
Cat 12 - Cooling Appliances containing refrigeration	Air Conditioner, Dehumidifier	18.5
	Freezer, chest	48
	Freezer, free standing	45
	Freezer / Fridge, table top	28
	Freezer, undercounter	32
	Fridge, free standing	38
	Fridge, undercounter	30
Fridge-Freezer	51	

Appendix 4: HWRC survey

The survey used for the on-site assessments of bulky items delivered to HWRCs is included in this appendix.

WRAP Bulky waste composition review

HWRC bulky item audit

Q1 Theme

- WEEE* .
- Furniture* .
- Textiles* .
- Mixed and Misc* .

Q2 WEEE: Main categories

- Large household appliances* . Go to Q3
- IT and telecomms equipment* . Go to Q5
- Consumer equipment* . Go to Q6
- lighting equipment* . Go to Q7
- Tools* . Go to Q8
- Display equipment (TVs / monitors)* . Go to Q9
- Cooling appliances (fridges / freezers)* . Go to Q14
- Toys* . Go to Q18
- Other bulky WEEE* . Go to Q2

Other bulky WEEE _____

Q3 WEEE: large household appliances

- microwave* .
- electric heating appliances* .
- washing machine* .
- tumble dryer* .
- dish washer* .
- cooker* .
- Oven (table top)* .
- Hob (electric)* .
- Free standing fan* .
- Sunbed* . Go to Q4
- Other* . Go to Q3.a

Go to Q38

Other _____

Q4 Sunbed: Does it still have bulbs/tubes in it?

- Yes* .
- No* .

Go to Q38

Q5 WEEE: IT and telecoms equipment

- Large PC* .
- Large printer* .

Go to Q38

Q6 WEEE: consumer equipment

- Hi-fis* .
- Audio Amplifiers* .
- Musical instrument* .

Go to Q38

Q7 WEEE: lighting equipment

Q8 WEEE: tools

- Lawn mower(electric)* .
- Other* . Go to Q8.a

Go to Q38

Other _____

Go to Q38

Q9 WEEE: display equipment

- TV* .
- Monitor* .
- CRT Combi* . Go to Q11

Q10 WEEE: TV / monitor type

- CRT* .
- Flatscreen* . Go to Q12

Q11 WEEE: CRT TV/monitor screen size

- <14"* .
- 15"* .
- 17"* .
- 19"* .
- 21"* .
- 32"* .
- >32"* .

Go to Q13

Q12 WEEE: flatscreen TV/monitor size

- 15-17"* .
- 19-20"* .
- 22-24"* .
- 26-30"* .
- 32-37"* .
- 40-46"* .
- >46"* .

Go to Q13

Q13 Is the remote control with it?

Yes .

No .

Go to Q38

Q14 WEEE: cooling appliances

Fridges .

Freezers . Go to Q16

Fridge freezers . Go to Q17

Dehumidifier . Go to Q38

Air conditioning unit . Go to Q38

Q15 WEEE: fridges

Under counter .

Free standing - tall .

Integrated .

Table top .

Table top (glass front) .

American style .

Go to Q38

Q16 WEEE: freezers

Under counter .

Free standing - tall .

Integrated .

Table top .

Chest Freezer .

Go to Q38

Q17 WEEE: fridge freezer

Free standing - tall .

Integrated .

American .

Go to Q38

Q18 WEEE: Toys

Ride in toy car (electronic) . Go to Q40

other .

WEEE toy: other _____

Go to Q40

Q19 Furniture: Main categories

Large hard furniture .

Small hard furniture . Go to Q21

Soft furniture - all sizes . Go to Q22

Fixtures and fittings (permanent) . Go to Q24

Garden / outdoor . Go to Q26

Gas appliances . Go to Q27

Q20 Furniture: large hard furniture

<i>single wardrobe</i>	•	
<i>double wardrobe</i>	•	
<i>display cabinet</i>	•	
<i>bookcase</i>	•	
<i>chest of drawers</i>	•	
<i>dining table</i>	•	
<i>large desk</i>	•	
<i>dressing table</i>	•	
<i>TV unit</i>	•	
<i>Piano</i>	•	
<i>sideboard</i>	•	
<i>Welsh dresser</i>	•	
<i>Bunk bed</i>	•	Go to Q32
<i>Bed frame - single</i>	•	Go to Q32
<i>Bed frame - double</i>	•	Go to Q32
<i>Bed frame - king-size</i>	•	Go to Q32
<i>Sink vanity unit</i>	•	

Go to Q40

Q21 Furniture: small hard furniture

<i>Chair</i>	•	
<i>bedside table/unit</i>	•	
<i>desk/ computer table</i>	•	
<i>small side table</i>	•	
<i>headboard (non fabric)</i>	•	
<i>small side table</i>	•	
<i>bench</i>	•	
<i>storage box/ottoman</i>	•	
<i>fire surround</i>	•	
<i>cot</i>	•	
<i>high chair</i>	•	
<i>stair gate</i>	•	
<i>filing cabinet</i>	•	
<i>divider (room or desk)</i>	•	
<i>radiator</i>	•	Go to Q37

Go to Q40

Q22 Furniture: soft furniture

<i>Armchair (inc recliners)</i>	•	Go to Q23
<i>Bed base - Single divan</i>	•	Go to Q32
<i>Bed base - Double divan</i>	•	Go to Q32
<i>Bed base - King size divan</i>	•	Go to Q32
<i>2 seater sofa</i>	•	Go to Q23
<i>3 seater sofa</i>	•	Go to Q23
<i>Sofa bed</i>	•	
<i>Futon / Z bed</i>	•	
<i>Headboard (fabric)</i>	•	
<i>footstool</i>	•	
<i>fabric bed base (with electronic component)</i>	•	Go to Q32

Go to Q39

Q23 What material is the sofa/armchair covered with?

- Fabric* .
- Leather* .
- PVC* .

Go to Q39

Q24 Furniture: fixtures and fittings (permanent)

- Bath* .
- Shower base* .
- Internal door* .
- External door* .
- Toilet* .
- Kitchen unit* . Go to Q25
- Kitchen sink* .
- Bathroom sink* .

Go to Q40

Q25 Number of Kitchen units:

- 1* .
- 2* .
- 3* .
- 4* .
- 5* .
- 6* .
- 7* .
- 8* .
- 9* .
- 10+* .

Go to Q40

Q26 Furniture: Garden/Outdoor

- Bench* .
- Table* .
- Chair* .
- Patio heater* .
- Shed* .
- BBQ* .
- non electrical tools inc ladders* .
- fence panels* .
- Gates* .
- Animal hutches/kennels* .

Go to Q40

Q27 Furniture: Gas appliances

- Gas fires* .
- Gas hob* .
- Gas oven* .

Go to Q40

Q28 Textiles: Main categories

- Carpets and rugs* .
- Leisure textiles* . Go to Q30
- Mattresses* . Go to Q31

Q29 Textiles: carpets and rugs

- Carpet* .
- Underlay* .
- Rug* .

Go to Q39**Q30 Textiles: Leisure textiles**

- Tent* .
- Tarpaulin* .
- Sails* .
- Sunblinds* .

Go to Q40**Q31 Textiles: mattresses**

- Single* .
- double* .
- King size* .

Go to Q32**Q32 It the bed/Mattress from Ikea?**

- Yes* .
- No* .

Go to Q40**Q33 Mixed and misc: Main categories**

- Small items* . Go to Q34
- Medium items* . Go to Q35
- Large items* . Go to Q36

Q34 Mixed and misc: Small items

- Plastic Christmas tree* .
- Dumbbells* .
- Other* . Go to Q34.a

Go to Q37

Other small item _____

Go to Q37**Q35 Mixed and misc: medium items**

- Pram Pushchair* .
- Wheelchair* .
- Ironing board* .
- Mini motorbike* .
- Pedal car (non electronic)* .
- Bicycle (child)* .
- Clothes horse* .
- Bird cage* .
- Fire guard* .

Q42 Re-use potential - visual assessment

- Re-usable in current condition* .
- Slight repair but good condition* .
- Item requires major repair work* .
- Not repairable but recyclable* .
- Not repairable and not recyclable* .

Q43 Re-use potential - site users assessment

- Item was in this condition before being moved* .
- Item was broken to get it into car* .
- item dismantled to get into car* .

Q44 Ask the resident: do you think the item is still usable? (especially WEEE items)

- Yes* .
- No* .

Q45 Postcode

Appendix 5: Numbers of items recorded during the study

This appendix summarises the total number of items observed or recorded during the sampling period. Note that the sampling period is not the same for each collection method therefore the figures are not directly comparable. The table does however show the items that commonly arise through each collection method, for example, armchairs, beds, carpet, mattresses, sofas, televisions and wardrobes. The left-hand column ("HWRC") shows items recorded during the HWRC site surveys. The middle column ("BWC call logs") shows items identified from the analysis of kerbside Bulky Waste Collections call logs. The right-hand column ("LA BWC collections") shows items recorded during the onsite sampling of kerbside Bulky Waste Collections.

Table 40: Number and type of items observed during bulky waste research

Item	No items observed:		
	HWRC	BWC call logs	LA BWC collections
Air conditioning unit	0	1	0
Animal hutches/ kennels	44	13	0
Archway	0	1	0
Arial	0	1	0
Armchair	204	535	56
Baby equipment	83	42	8
Barbeque	64	32	2
Bath and other bathroom	90	89	20
Bathroom Cabinet	33	0	0
Beanbag	4	1	0
Beauty electricals	2	2	0
Bed	287	786	110
Bedside cabinet	144	50	11
Bench	3	0	0
Bicycle	181	64	3
Bin	54	1	0
Blind	94	23	4
Boiler	6	1	0
bookcase	85	47	2
cabinet	2	162	3
Cardboard	0	48	0
Carpet	756	448	44
CD rack	30	0	0
Ceiling light	31	0	0
Chair	526	562	62
Chaise Longue	0	1	0
Chest of drawers	284	166	25
Computer	39	18	0

Item	No items observed:		
	HWRC	BWC call logs	LA BWC collections
Cooker	76	109	5
Cooker hood	0	1	0
Cot mattress	1	1	0
CRT video/DVD Combi	53	0	0
Cupboard	3	55	1
Curtains	0	1	0
Curtain rail	36	0	0
Cushion	1	23	0
Desk	137	68	9
Digibox	1	8	0
Dining table	86	0	0
dishwasher	31	58	5
Display cabinet	81	0	0
Door	260	151	42
Double mattress	296	298	95
dressing table	15	42	1
Dryer	2	1	0
Duvet	1	3	0
Electric bed	0	1	0
Electric blanket	0	1	0
Electric heater	0	12	0
Electric wheelchair	0	2	0
electric hob	0	14	1
Electric sofa	2	0	0
Exercise equipment	40	0	1
Fabric bed	124	0	0
Fabric headboard	27	0	0
Fan	25	6	0
Fence panels	184	27	16
Filing cabinet	31	9	4
Fire	1	13	2
Fire surround	8	10	2
Flat glass	0	2	0
Flooring	91	25	17
Freezer	41	135	7
Fridge	80	131	12
Fridge freezer	50	206	15
Futon	26	0	0
Futon mattress	27	0	0
Garden Furniture	420	144	16
Garden shredder	9	3	0
Garden waste	0	22	0
Gardening tool	1	2	0
Gas fire	31	0	0

Item	No items observed:		
	HWRC	BWC call logs	LA BWC collections
Gas oven/ hob	23	0	0
Gates	12	11	0
Gazebo	0	1	0
Golf trolley	1	0	0
Grandfather clock	0	1	1
Greenhouse	10	0	0
Hat/ coat stand	0	1	0
Headboard	31	95	16
Heater	74	1	0
Hob	0	2	0
Hostess trolley	0	2	0
Household appliance	0	6	1
Household textiles	0	1	0
Inert	0	17	2
Iron	0	1	0
IT peripherals	2	5	0
Kingsize mattress	23	47	1
Kitchen appliance	15	8	0
Kitchen unit (see below)	288	49	0
Kitchen fixtures and fittings	33	0	47
Knitting machine	0	2	0
Lamp	33	18	2
Large miscellaneous	287	77	13
Lawnmower	103	54	3
Leaf blower	0	2	0
Light fitting	0	2	1
Mattress (unknown size)	0	640	0
medium miscellaneous	1,050	187	70
Metal	0	3	0
Microwave	200	52	11
Mobility Scooter	2	0	0
Monitor	160	13	5
Musical instrument	15	2	0
Non electrical tools	73	42	4
Office equipment	3	0	0
Other consumer equipment	2	0	0
Other cooling appliances	12	0	0
Other fixtures and fittings	31	0	0
Other garden and outdoor	50	0	0
Other IT	4	0	0
Other large hard furniture	5	0	0
Other LDA	12	0	0
Other medical devices	1	1	0
Other SDA	17	0	0

Item	No items observed:		
	HWRC	BWC call logs	LA BWC collections
Other small hard furniture	8	0	0
Other soft furnishings	1	0	0
Other textiles	12	8	0
Other tools	22	0	0
Other toys, leisure or sports equipment	10	0	0
Ottoman	46	0	0
Paper	0	1	0
Play equipment	49	0	0
Personal Stereo	0	1	0
Piano	0	6	0
Pillow	0	3	0
Plasterboard	0	5	0
Play equipment	0	34	0
printer	97	11	2
Radiator	44	16	6
Radiator cover	0	1	0
Radio	0	2	0
Residual waste	0	160	0
Rotary washing line	31	10	0
Rug	139	46	5
Satellite dish	1	1	0
Scanner	3	1	0
Sewing machines	1	4	0
Shed	81	8	1
Shelving	148	19	16
Shower base	25	0	0
Shower door	47	0	0
Shredder	3	0	0
Sideboard	33	22	4
Single mattress	347	232	59
Sink	128	0	0
Skirting boards	12	0	0
Small miscellaneous	117	179	9
Sofa	246	1161	89
Sofa cushions	58	4	0
Sofabed	24	59	4
Speakers	16	0	0
Stereo	106	36	5
stool	97	45	8
storage box	3	10	3
Storage heater	9	5	0
Strimmer	14	5	0
Sunbed	3	4	1
Table	207	231	48

Item	No items observed:		
	HWRC	BWC call logs	LA BWC collections
Television	925	363	47
Tent/ tarpaulin	22	1	0
Three piece suite	0	44	0
Toilet	113	0	0
Toys	224	3	0
Trampoline fabric	0	1	0
Tumble dryer	40	51	0
TV unit	137	85	10
Type writer	1	1	0
Underlay	156	63	0
Vacuum	27	64	0
Vanity unit	7	0	0
Video/ DVD	3	13	0
Wall unit	1	15	0
Wardrobe	381	242	37
Washer dryer	2	2	0
Washing machine	54	119	15
Waterbutt	15	7	1
Welsh dresser	6	5	1
Wheelbarrow	20	0	0
Window	72	12	10
Wood	144	99	23
TOTAL	12,454	9,541	1,182

Appendix 6: Detailed national estimates of household bulky waste arisings

This appendix presents national estimates for household bulky waste arisings by theme and item type, relating to the UK during 2010/11. Estimates for household bulky items delivered to HWRCs are shown in Table 41, with estimates for household bulky items collected at the kerbside presented in Table 42.

These estimates have been arrived at through the following steps:

- (1) Analysis of bulky arisings carried out for this project has identified the numbers of different types of household items arising in, respectively, the kerbside bulky and HWRC streams. For kerbside bulky items, these assessments were arrived at through analysis of kerbside bulky collection call log data for 11 local authorities, and for HWRCs items were recorded during fieldwork at 14 HWRCs; (see Section 3).
- (2) Average weights of items, derived from the FRN list of average weights (Appendix 3) were applied to the items recorded as arising in kerbside bulky and HWRC streams. This produced a weight-based profile of the proportional arising of different types of bulky items. The proportional arisings by weight for each bulky item within, respectively, HWRC and kerbside bulky collections are shown in the third column of Tables 40 and 41. Therefore the data analysis and fieldwork carried out for this project has essentially been used to determine the proportional arisings by weight of different types of bulky items, with separate exercises carried out for kerbside bulky collections and HWRCs.
- (3) Having determined the proportional split of these bulky streams, the overall size of these streams nationally has been estimated with reference to WasteDataFlow tonnages; (see Section 4). This analysis suggests that the arising of bulky items in the UK in 2010/11 was around half a million tonnes for kerbside bulky collections; and around one million tonnes for HWRCs. The proportional splits derived from steps (1) and (2) have been applied to these total tonnage estimates, to produce weight estimates for the national arising of each type of bulky item.
- (4) Average weights for different item types (used earlier in step (2)) have been applied again to the estimated national tonnage for each type of bulk item to arrive at an estimated national number of each type of bulky item disposed annually.

This methodology is illustrated in the following example, relating to baths delivered to HWRCs:

- The fieldwork carried out for this project indicates that baths account for 0.805% by weight of all bulky items observed during the HWRC fieldwork, with this assessment having been arrived at by multiplying the number of baths observed by an assumed average weight per bath, and comparing this weight with the estimated total weight of items observed.
- Analysis of WasteDataFlow suggests that the total arising of bulky items at HWRCs in the UK during 2010/11 was 1,050,000 tonnes. Therefore the tonnage of baths delivered to HWRCs in the UK annually is estimated to be $0.805\% \times 1,050,000 = 8,448$ tonnes (accounting for rounding).
- The average weight of a bath is assumed to be 23.4 kg. Therefore the numbers of baths arising nationally at HWRCs is estimated to be $8,448 \times 1,000 / 23.4 = 361,530$ baths (accounting for rounding).

Table 41: Estimated national tonnage arising of household bulky items delivered to HWRCs, UK 2010/11

Theme	Item	% arising of HWRC bulky (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
Fixtures & Fittings	Bath	0.805%	8,448	23.4	361,530
Fixtures & Fittings	Bathroom Cabinet	0.113%	1,182	7.2	163,136
Fixtures & Fittings	Blinds	0.242%	2,537	7.0	362,367
Fixtures & Fittings	Curtain rail	0.042%	444	3.0	148,138
Fixtures & Fittings	Door	3.125%	32,809	29.5	1,113,750
Fixtures & Fittings	Fire surround	0.073%	763	19.5	39,108
Fixtures & Fittings	Flooring	0.900%	9,446	23.3	405,594
Fixtures & Fittings	Kitchen unit	2.714%	28,502	21.8	1,308,747
Fixtures & Fittings	Kitchen worktop	0.157%	1,647	11.0	149,726
Fixtures & Fittings	Other fixtures and fittings	0.136%	1,426	9.8	144,981
Fixtures & Fittings	Shower base	0.157%	1,646	15.0	109,732
Fixtures & Fittings	Shower door	0.155%	1,626	7.7	209,926
Fixtures & Fittings	Sink	1.042%	10,938	20.0	546,906
Fixtures & Fittings	Skirting boards	0.051%	537	10.6	50,716
Fixtures & Fittings	Toilet	1.464%	15,376	33.2	463,330
Fixtures & Fittings	Vanity unit	0.099%	1,036	29.0	35,723
Fixtures & Fittings	Window	1.029%	10,801	37.1	291,480
Furniture	Armchair	2.222%	23,328	27.0	864,004
Furniture	Baby equipment	0.433%	4,549	13.2	345,793
Furniture	Beanbag	0.006%	65	11.0	5,886
Furniture	Bed	3.103%	32,585	25.8	1,264,124
Furniture	Bedside cabinet	0.818%	8,592	14.0	613,699
Furniture	Bench	0.050%	520	30.0	17,346
Furniture	Bookcase	0.803%	8,427	21.0	401,279

Theme	Item	% arising of HWRC bulky (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
Furniture	Cabinet	0.004%	46	6.0	7,750
Furniture	CD rack	0.035%	364	3.0	121,325
Furniture	Chair	2.918%	30,637	13.9	2,206,369
Furniture	Chest of drawers	3.198%	33,577	27.0	1,245,874
Furniture	Cupboard	0.007%	74	6.0	12,274
Furniture	Desk	1.164%	12,225	21.6	566,787
Furniture	Dining table	1.096%	11,506	29.0	396,772
Furniture	Display cabinet	0.671%	7,042	20.0	352,107
Furniture	Dressing table	0.187%	1,963	34.0	57,727
Furniture	Fabric bed	1.238%	12,995	24.0	541,467
Furniture	Fabric headboard	0.121%	1,268	11.0	115,235
Furniture	Filing cabinet	0.368%	3,866	30.5	126,547
Furniture	Futon	0.257%	2,694	23.2	116,337
Furniture	Gas fire	0.121%	1,275	8.8	144,784
Furniture	Gas oven/ hob	0.399%	4,192	37.0	113,437
Furniture	Headboard	0.129%	1,352	10.7	126,592
Furniture	Other large hard furniture	0.118%	1,240	34.8	35,621
Furniture	Other small hard furniture	0.034%	354	10.6	33,286
Furniture	Other soft furnishings	0.002%	21	6.0	3,531
Furniture	Ottoman	0.220%	2,310	11.0	210,008
Furniture	Radiator	0.321%	3,373	17.5	192,745
Furniture	Shelving	1.188%	12,469	20.2	616,784
Furniture	Sideboard	0.492%	5,163	34.3	150,656
Furniture	Sofa	3.874%	40,674	39.2	1,037,204
Furniture	Sofabed	0.540%	5,666	54.2	104,601
Furniture	Stool	0.211%	2,220	5.0	440,448

Theme	Item	% arising of HWRC bulky (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
Furniture	Storage	0.009%	92	6.0	15,301
Furniture	Table	1.206%	12,667	13.8	916,146
Furniture	TV unit	0.982%	10,312	16.6	619,349
Furniture	Wall unit	0.003%	28	6.0	4,633
Furniture	Wardrobe	7.665%	80,478	46.9	1,714,219
Furniture	Welsh dresser	0.284%	2,986	92.0	32,451
Garden / Outdoor	Animal hutches/ kennels	0.126%	1,319	7.0	187,248
Garden / Outdoor	Barbeque	0.385%	4,038	14.7	275,539
Garden / Outdoor	Bicycle	0.779%	8,184	10.4	784,619
Garden / Outdoor	Bin	0.271%	2,848	11.0	258,918
Garden / Outdoor	Fence panels	0.801%	8,412	11.0	764,764
Garden / Outdoor	Garden furniture	1.906%	20,013	11.3	1,768,459
Garden / Outdoor	Gates	0.080%	841	19.3	43,502
Garden / Outdoor	Greenhouse	0.039%	414	10.0	41,386
Garden / Outdoor	Heater	0.015%	155	17.3	8,983
Garden / Outdoor	Lawnmower	0.037%	385	14.4	26,639
Garden / Outdoor	Non electrical tools including ladders	0.192%	2,014	6.0	334,472
Garden / Outdoor	Other garden and outdoor	0.204%	2,138	10.0	212,968
Garden / Outdoor	Play equipment	0.188%	1,973	9.9	199,701
Garden / Outdoor	Rotary washing line	0.135%	1,421	10.4	137,221
Garden / Outdoor	Shed	0.627%	6,579	19.6	335,554
Garden / Outdoor	Waterbutt	0.072%	757	11.0	68,803
Garden / Outdoor	Wheelbarrow	0.094%	988	10.5	94,103
Mixed	Exercise equipment	0.109%	1,144	11.0	104,018
Mixed	Flooring	0.002%	26	11.0	2,334
Mixed	Large miscellaneous	1.378%	14,470	11.1	1,299,384

Theme	Item	% arising of HWRC bulky (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
Mixed	Medium miscellaneous	2.684%	28,177	6.1	4,620,613
Mixed	Small miscellaneous	0.157%	1,650	3.0	550,101
Mixed	Toys	0.907%	9,525	11.0	865,873
Mixed	Wood	0.736%	7,724	11.0	702,179
Textiles	Beanbag	0.008%	81	6.0	13,490
Textiles	Blinds	0.043%	448	7.0	63,938
Textiles	Carpet	7.815%	82,056	25.0	3,282,256
Textiles	Cot mattress	0.003%	28	6.0	4,633
Textiles	Cushion	0.002%	22	6.0	3,610
Textiles	Double mattress	4.697%	49,322	40.0	1,233,059
Textiles	Duvet	0.003%	35	6.0	5,782
Textiles	Futon mattress	0.292%	3,067	22.4	136,856
Textiles	Kingsize mattress	0.415%	4,357	50.0	87,145
Textiles	Other textiles	0.059%	622	11.0	56,552
Textiles	Rug	0.291%	3,058	5.0	611,612
Textiles	Single mattress	2.900%	30,453	21.0	1,450,125
Textiles	Sofa cushions	0.365%	3,834	16.8	228,532
Textiles	Tent/ tarpaulin	0.054%	569	6.0	94,779
Textiles	Underlay	1.603%	16,835	25.0	673,396
WEEE	Other medical devices	0.011%	118	20.0	5,886
WEEE	Beauty electricals	0.004%	39	4.5	8,642
WEEE	Boiler	0.033%	343	15.5	22,126
WEEE	Ceiling light	0.028%	295	2.1	141,595
WEEE	Computer	0.148%	1,553	9.7	159,828
WEEE	Cooker	1.156%	12,134	37.9	320,543
WEEE	CRT video/dvd combi	0.227%	2,387	11.0	217,024

Theme	Item	% arising of HWRC bulky (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
WEEE	Digibox	0.002%	24	7.0	3,496
WEEE	Dishwasher	0.554%	5,821	47.0	123,842
WEEE	Dryer	0.009%	97	13.0	7,467
WEEE	Electric sofa	0.112%	1,175	135.0	8,700
WEEE	Exercise equipment	0.086%	905	11.0	82,291
WEEE	Fan	0.090%	948	9.4	100,468
WEEE	Fire	0.003%	28	6.0	4,633
WEEE	Fluorescent tubes	0.005%	49	2.0	24,746
WEEE	Freezer	0.618%	6,492	39.1	166,052
WEEE	Fridge	0.964%	10,125	31.0	327,133
WEEE	Fridge freezer	0.853%	8,954	51.0	175,568
WEEE	Garden shredder	0.065%	682	18.9	36,110
WEEE	Gardening tool	0.005%	48	11.0	4,350
WEEE	Golf trolley	0.004%	38	11.0	3,496
WEEE	Heater	0.141%	1,480	5.1	288,063
WEEE	IT peripherals	0.006%	65	7.5	8,659
WEEE	Kitchen appliance	0.030%	313	5.7	55,171
WEEE	Lamp	0.022%	230	1.7	133,401
WEEE	Lawnmower	0.487%	5,111	13.5	378,708
WEEE	Microwave	1.633%	17,143	19.0	902,289
WEEE	Mobility Scooter	0.034%	352	60.0	5,865
WEEE	Monitor	0.946%	9,934	14.1	705,211
WEEE	Musical instrument	0.197%	2,073	28.0	74,021
WEEE	Office equipment	0.007%	76	7.0	10,829
WEEE	Other consumer equipment	0.009%	98	11.0	8,874
WEEE	Other cooling appliances	0.084%	879	18.5	47,500

Theme	Item	% arising of HWRC bulky (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
WEEE	Other IT	0.017%	176	11.5	15,295
WEEE	Other LDA	0.060%	629	12.6	49,955
WEEE	Other SDA	0.044%	462	5.6	82,688
WEEE	Other tools	0.080%	840	10.0	83,642
WEEE	Other toys, leisure or sports equipment	0.040%	419	10.1	41,439
WEEE	Printer	0.294%	3,083	7.1	434,041
WEEE	Satellite dish	0.002%	22	5.0	4,350
WEEE	Scanner	0.009%	96	7.0	13,775
WEEE	Sewing machines	0.010%	100	17.0	5,886
WEEE	Shredder	0.009%	94	7.0	13,495
WEEE	Speakers	0.040%	424	5.4	78,068
WEEE	Stereo	0.476%	4,997	11.0	454,299
WEEE	Storage heater	0.065%	681	15.0	45,397
WEEE	Strimmer	0.057%	601	11.0	54,608
WEEE	Sunbed	0.030%	311	33.0	9,439
WEEE	Television	8.801%	92,415	24.5	3,774,893
WEEE	Toys	0.032%	341	7.1	48,029
WEEE	Tumble dryer	0.647%	6,793	38.4	177,133
WEEE	Type writer	0.003%	28	9.0	3,117
WEEE	Vacuum	0.120%	1,259	12.6	99,676
WEEE	Video/ DVD	0.007%	76	7.0	10,829
WEEE	Washer dryer	0.041%	430	69.0	6,234
WEEE	Washing machine	1.274%	13,375	64.0	208,862
ALL THEMES	ALL ITEMS, TOTAL	100%	1,050,000	n/a	53,454,362

Table 42: Estimated national tonnage arising of household bulky items collected at the kerbside, UK 2010/11

Theme	Item	% arising of kerbside bulky collections (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
Fixtures & Fittings	Bathroom	0.777%	4,197	25.0	168,121
Fixtures & Fittings	Door	0.939%	5,073	17.8	285,238
Fixtures & Fittings	Fire surround	0.128%	691	28.0	24,692
Fixtures & Fittings	Flooring	0.219%	1,181	25.0	47,225
Fixtures & Fittings	Kitchen fixtures and fittings	0.267%	1,443	15.6	92,561
Fixtures & Fittings	Plasterboard	0.057%	306	32.4	9,445
Fixtures & Fittings	Window	0.079%	425	18.8	22,668
Furniture	Armchair	5.717%	30,871	27.4	1,126,682
Furniture	Baby equipment	0.083%	446	14.1	31,589
Furniture	Bed	8.046%	43,446	26.2	1,655,275
Furniture	Bedside cabinet	0.273%	1,474	14.0	105,297
Furniture	Bookcase	0.298%	1,611	16.3	98,980
Furniture	Cabinet	2.099%	11,332	33.2	341,164
Furniture	Chair	2.623%	14,165	12.0	1,183,543
Furniture	Chais Longe	0.011%	57	27.0	2,106
Furniture	Chest of drawers	1.714%	9,254	26.5	349,587
Furniture	Cupboard	0.609%	3,291	28.4	115,827
Furniture	Desk	0.624%	3,371	23.5	143,204
Furniture	Dressing table	0.557%	3,007	34.0	88,450
Furniture	Filing cabinet	0.155%	838	44.2	18,954
Furniture	Grandfather clock	0.025%	135	64.0	2,106
Furniture	Hat/ Coat stand	0.002%	13	6.0	2,106
Furniture	Headboard	0.408%	2,201	11.0	200,065
Furniture	Piano	0.304%	1,643	130.0	12,636

Theme	Item	% arising of kerbside bulky collections (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
Furniture	Radiator cover	0.002%	13	6.0	2,106
Furniture	Shelving	0.128%	693	17.3	40,013
Furniture	Sideboard	0.345%	1,862	40.2	46,331
Furniture	Sofa	18.119%	97,841	40.0	2,445,006
Furniture	Sofa-bed/ futon	1.144%	6,178	49.7	124,251
Furniture	Stool	0.088%	474	5.0	94,768
Furniture	Storage box	0.048%	259	12.3	21,059
Furniture	Table	1.852%	10,003	20.6	486,474
Furniture	Three piece suite	1.693%	9,140	98.6	92,662
Furniture	TV unit	0.564%	3,043	17.0	179,006
Furniture	Wall unit	0.243%	1,312	41.5	31,589
Furniture	Wardrobe	4.381%	23,658	46.4	509,639
Furniture	Welsh dresser	0.179%	969	92.0	10,530
Garden / Outdoor	Animal hutch/ cage	0.040%	214	7.8	27,298
Garden / Outdoor	Archway	0.004%	23	11.0	2,100
Garden / Outdoor	Barbeque	0.187%	1,008	15.0	67,195
Garden / Outdoor	Bicycle	0.315%	1,702	12.7	134,389
Garden / Outdoor	Bin	0.004%	23	11.0	2,100
Garden / Outdoor	Fence	0.178%	964	17.0	56,695
Garden / Outdoor	Garden furniture	0.702%	3,790	12.5	302,375
Garden / Outdoor	Gate	0.082%	445	19.3	23,098
Garden / Outdoor	Heater	0.004%	23	11.0	2,100
Garden / Outdoor	Ladder	0.038%	208	11.0	18,898
Garden / Outdoor	Non electrical tools	0.133%	716	10.3	69,294
Garden / Outdoor	Ornament	0.001%	6	3.0	2,100

Theme	Item	% arising of kerbside bulky collections (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
Garden / Outdoor	Play equipment	0.140%	756	10.6	71,394
Garden / Outdoor	Rotary washing line	0.041%	220	10.5	20,998
Garden / Outdoor	Shed	0.056%	302	18.0	16,799
Garden / Outdoor	Toys	0.002%	13	6.0	2,100
Garden / Outdoor	Waterbutt	0.028%	151	10.3	14,699
Mixed	Baby equipment	0.064%	347	8.6	40,337
Mixed	Large miscellaneous	0.293%	1,582	13.8	115,034
Mixed	Medium sized mixed items	0.304%	1,640	5.9	277,874
Mixed	Small miscellaneous	0.367%	1,982	8.7	226,620
Non bulky	Cardboard	0.234%	1,261	11.4	110,269
Non bulky	Flat glass	0.009%	46	10.0	4,595
Non bulky	Garden waste	0.605%	3,264	64.6	50,540
Non bulky	Inert	0.451%	2,435	62.4	39,053
Non bulky	Metal	0.007%	39	5.7	6,892
Non bulky	Paper	0.017%	92	40.0	2,297
Non bulky	Residual waste	2.283%	12,329	33.5	367,562
Non bulky	Wood	0.762%	4,117	17.9	229,617
Textiles	Bean bag	0.001%	6	3.0	2,019
Textiles	Blind	0.051%	277	6.0	46,442
Textiles	Carpet	4.058%	21,916	24.2	904,611
Textiles	Curtains	0.007%	40	20.0	2,019
Textiles	Cushion	0.036%	196	4.2	46,442
Textiles	Duvet	0.007%	36	6.0	6,058
Textiles	Gazebo	0.004%	22	11.0	2,019
Textiles	Household textiles	0.001%	6	3.0	2,019

Theme	Item	% arising of kerbside bulky collections (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
Textiles	Mattress	16.055%	86,699	35.1	2,473,546
Textiles	Medium miscellaneous	0.001%	6	3.0	2,019
Textiles	Pillow	0.002%	10	1.7	6,058
Textiles	Rug	0.086%	464	5.0	92,884
Textiles	Sofa cushion	0.007%	40	5.0	8,077
Textiles	Tent	0.004%	22	11.0	2,019
Textiles	Trampoline fabric	0.002%	12	6.0	2,019
Textiles	Underlay	0.589%	3,180	25.0	127,211
WEEE	Air conditioning unit	0.006%	34	18.5	1,863
WEEE	Arial	0.001%	6	3.0	1,863
WEEE	Beauty electricals	0.001%	4	1.0	3,725
WEEE	Boiler	0.007%	37	20.0	1,863
WEEE	Computer	0.062%	335	10.0	33,526
WEEE	Cooker	2.034%	10,984	54.3	202,128
WEEE	Cooker hood	0.003%	17	9.0	1,863
WEEE	Digibox	0.031%	166	11.1	14,901
WEEE	Dishwasher	0.940%	5,077	47.0	108,030
WEEE	Dryer	0.013%	73	39.0	1,863
WEEE	Electric bed	0.034%	186	100.0	1,863
WEEE	Electric blanket	0.002%	11	6.0	1,863
WEEE	Electric heater	0.047%	251	8.8	28,737
WEEE	Electric wheelchair	0.041%	224	60.0	3,725
WEEE	Exercise equipment	0.053%	287	11.0	26,076
WEEE	Fan	0.012%	64	5.8	11,175
WEEE	Freezer	1.836%	9,915	39.4	251,448

Theme	Item	% arising of kerbside bulky collections (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
WEEE	Fridge	1.449%	7,823	32.6	240,320
WEEE	Fridge/ freezer	3.617%	19,529	50.9	383,691
WEEE	Garden shredder	0.017%	91	16.3	5,588
WEEE	Hand tools	0.003%	15	4.0	3,725
WEEE	Hob	0.010%	52	14.0	3,725
WEEE	Hostess trolley	0.017%	89	24.0	3,725
WEEE	Household appliance	0.011%	58	5.2	11,175
WEEE	Iron	0.001%	4	2.0	1,863
WEEE	IT peripherals	0.006%	30	3.2	9,313
WEEE	Kitchen appliance	0.011%	58	3.9	14,901
WEEE	Knitting machine	0.008%	45	12.0	3,725
WEEE	Lamp	0.012%	64	1.9	33,526
WEEE	Lawnmower	0.264%	1,423	14.1	100,579
WEEE	Leaf blower	0.009%	48	13.0	3,725
WEEE	Light fitting	0.002%	8	2.3	3,725
WEEE	Microwave	0.341%	1,840	19.0	96,854
WEEE	Monitor	0.061%	327	13.5	24,214
WEEE	Musical instrument	0.021%	115	31.0	3,725
WEEE	Personal Stereo	0.0003%	2	1.0	1,863
WEEE	Printer	0.027%	143	7.0	20,488
WEEE	Radiator	0.097%	523	17.6	29,801
WEEE	Radio	0.001%	7	2.0	3,725
WEEE	Satellite dish	0.002%	9	5.0	1,863
WEEE	Scanner	0.002%	13	7.0	1,863
WEEE	Sewing machine	0.021%	114	15.3	7,450

Theme	Item	% arising of kerbside bulky collections (by weight)	Estimated tonnes in UK, 2010/11	Average weight per item (kg)	Estimated no. items
WEEE	Stairlift	0.021%	112	60.0	1,863
WEEE	Stereo	0.101%	546	8.1	67,053
WEEE	Storage heater	0.034%	186	20.0	9,313
WEEE	Strimmer	0.019%	102	11.0	9,313
WEEE	Strip light	0.001%	3	1.5	1,863
WEEE	Sunbed	0.046%	246	33.0	7,450
WEEE	Television	1.848%	9,980	14.8	674,253
WEEE	Television /video combi	0.004%	20	11.0	1,863
WEEE	Toys	0.008%	41	11.0	3,725
WEEE	Tumble dryer	0.686%	3,705	39.0	94,991
WEEE	Type writer	0.002%	13	7.0	1,863
WEEE	Vacuum cleaner	0.287%	1,550	13.0	119,205
WEEE	Video/ DVD	0.051%	278	11.5	24,214
WEEE	Washer drier	0.048%	257	69.0	3,725
WEEE	Washing machine	2.650%	14,310	64.6	221,647
ALL THEMES	ALL ITEMS, TOTAL	100%	540,000	n/a	19,194,740

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