

Resource Futures

Report to INCPEN: Estimated municipal waste
arisings in England 2006/07

RF Project no 1679

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Prepared for INCPEN

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1. Aims and Scope

This report presents estimated compositional analysis of England's municipal waste and recycling streams. It uses data collated and analysed from the most recent national compositional estimates, reported in *Defra WR0119: Municipal Waste Composition: A Review of Municipal Waste Component Analyses, Resource Futures 2010*¹, hereafter referred to as the WR0119 study.

The estimates produced in the WR0119 study relate to England during 2006/07. Estimates are produced for all municipal residual and recycling streams reported in WasteDataFlow (WDF) statistics for England in 2006/07.

The WR0119 study involved collating waste compositional studies which met certain selection criteria (see Section 2) and then analysing the data in these studies to produce national compositional estimates. These studies had mostly been commissioned by various local authorities (sometimes with funding support from central government), in order to help local authorities understand their waste streams. The studies were carried out by various waste auditing contractors, according to the requirements of different local authorities commissioning the studies. A wide variety of methodologies were applied across the collated studies, particularly in relation to the category lists used across different studies. Packaging fractions were not reported consistently across all the studies, although some data is available for most packaging fractions. The packaging fractions included in the study are detailed in Section 2.

The resulting estimates provide the most comprehensive overview of municipal waste arisings identified in waste compositional studies to have been produced to date; results are presented in Section 3.

2. Methodology

2.1 Collated datasets

As discussed in Section 1, this report builds upon work carried out for *WR0119: Municipal Waste Composition: A Review of Municipal Waste Component Analyses*. The WR0119 study and its appendices should be referred to for description of the method used to collate composition datasets, representativeness of data etc. However some important issues relating to the collated datasets are addressed here.

2.1.1 Baseline for compositional estimates

The estimates presented here relate to England during 2006/07. Residual waste compositional datasets were analysed alongside WDF tonnages for residual and recycling for 2006/07, in order to build national estimates for arisings of different fractions in the various municipal waste streams reported in WDF. In practice, the compositional datasets were carried out over various periods, though the best overall match was with the period 2006/07. Further details on coverage by period for the compositional datasets can be found in Annex 3 of the WR0119 report.

2.1.2 Residual waste compositional datasets

The following selection criteria were applied to kerbside compositional datasets in the WR0119:

- 2 or more phases of auditing carried out (some attempt to control for seasonality);
- ACORN, Council Tax band, or other socio-demographic stratification (some attempt to control for area types when generalising results for a district);

¹ <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=15133>

- start date no earlier than 2005.

Kerbside residual compositional datasets for 120 local authorities in England met these selection criteria. These same 120 datasets were interrogated to produce the packaging arising estimates presented here.

Substantially fewer datasets were collated for other municipal waste streams (HWRC, street sweepings & litter, etc) as part of the WR0119 project. In order to maximise coverage of these waste streams, the selection criteria applied to kerbside datasets were not applied to these other waste streams.

The total numbers of datasets included in the packaging arising analyses presented in this report are shown in Table 2.1.

Table 2.1: Number of local authority level compositional datasets included in the secondary category level analyses

Waste stream	No. local authority level compositional datasets included in analysis
Kerbside residual	120
HWRC residual	34
Bulky waste collections residual	21
Street cleansing, sweeping and litter residual	19
Municipally collected commercial waste residual	25

These datasets were considered to be broadly representative of England and to provide considerably better coverage than datasets included in previous reviews of national municipal waste composition.

2.1.3 Compositional assessments for recycling streams

Recycling tonnages are reported in WDF according to the different types of materials collected for recycling. This is very useful in terms of building up an accurate profile of municipal recycling streams. However the categorisation of materials is limited in WDF. Therefore in order to identify packaging fractions it has been necessary to refer to compositional datasets, in order to estimate the arising of packaging with the main WDF categories (ie arisings of paper packaging within WDF reported paper recycling tonnages). Nearly all of these compositional datasets refer to kerbside recycling, and the same selection criteria as used for kerbside residual (see Section 2.1.2) were applied. This resulted in 94 kerbside recycling compositional datasets, providing reasonable coverage for England.

2.1.4 Addressing data gaps

Although the combination of compositional studies and WDF tonnages provided an impressive body of data upon which to build national estimates, there were data gaps, particular in relation to some of the less studied waste streams. This particularly relates to detailed compositional data which reveals information on packaging fractions. In these instances compositional estimates from another waste stream were applied. For example, there were no data for paper packaging arisings in HWRC recycling and so the proportion of paper found to be packaging in kerbside recycling was applied to arrive at the estimates for HWRC recycling. Fortunately most of the data gaps relate to waste and recycling streams which are relatively small in relation to overall municipal waste arisings. An assessment of the coverage of data on packaging arisings for each municipal waste and recycling stream is included in Section 3, Table 3.5.

2.2 Waste streams included in this study

All the municipal residual and recycling streams that are separately identifiable from 2006/07 WDF tonnages are included in this study. These waste and recycling streams, along with total tonnages for England during 2006/07, are shown in Table 2.2.

Table 2.2: municipal waste and recycling tonnages for England, 2006/07

Waste / Recycling stream		Tonnes
HOUSEHOLD	Kerbside residual	14,050,000
	Kerbside recycling	4,656,625
	HWRC residual (household)	2,576,000
	HWRC recycling	2,556,704
	BWC residual	269,790
	Street cleansing etc	903,210
	Bring site recycling	665,856
	Street bins recycling	19,165
	"Other means" recycling	77,649
	SUBTOTAL HOUSEHOLD	25,775,000
NON-HOUSEHOLD	Commercial residual	2,137,994
	HWRC residual - non-household	270,006
	Commercial recycling	157,112
	SUBTOTAL NON-HOUSEHOLD	2,565,112
ALL MUNICIPAL WASTE AND RECYCLING		28,340,112

Notes: HWRC = Household Waste Recycling Centres. BWC = Bulky Waste Collections.

WDF tonnages for 2006/07 include an "Other household residual" category. This has been split into Bulky Waste Collections (BWC) and Street cleansing etc, on the basis of operational tonnages from several local authorities. This split has been made since it is known that the composition of BWC and Street cleansing etc are very different.

"Street cleansing etc" itself consists of several 'streetscene' type wastes, specifically street bins, street cleansing (litter picking and manual street sweepings) and street sweepings (mechanical street sweepers).

2.3 Packaging fractions identified in this study

The degree to which packaging fractions could be identified in this study was limited to the data available in the collated compositional datasets and their associated category lists. Within the limits of the data, the most detailed and comprehensive list of packaging fractions was used for this study, with these fractions indicated with green shading in Table 2.3. Data on other non-packaging fractions were included, so that the arisings of packaging fractions can be viewed in the context of other fractions. "Composite packaging" refers to multi-material drinks and food containers.

Some fractions of hazardous waste are known to include some packaging (indicated with yellow shading in Table 2.3), but there is no data available on the relative arisings of packaging within these categories. This issue is addressed separately in Section 3.1.

Table 2.3: Category list applied for this study

Primary category	Secondary category
Organics	Food waste
	Garden waste
	Other organics
Paper	Paper packaging
	Other paper
Card	Card packaging
	Other card
Glass	Glass Green bottles
	Glass Clear bottles
	Glass Brown bottles
	Glass Jars
	Non-packaging glass
Ferrous metals	Ferrous food cans
	Ferrous drinks cans
	Ferrous aerosols
	Other ferrous packaging
	Ferrous non-packaging
Non-ferrous metals	Non-ferrous food cans
	Non-ferrous drinks cans
	Non-ferrous aerosols
	Foil packaging
	Other non-ferrous packaging
	Non-ferrous non-packaging
Plastic film	Plastic bags
	Plastic film packaging
	Other plastic film (non-packaging)
Dense plastic	Dense plastic drinks bottles
	Dense plastic non-drinks bottles
	Other dense plastic packaging
	Other dense plastic (non-packaging)
Textiles	Textiles and shoes
Wood	Wood packaging
	Other wood
WEEE	WEEE
Hazardous	Batteries
	Clinical waste
	Paint/varnish
	Oil
	Garden herbicides & pesticides
Sanitary	Sanitary
Composite	Composite packaging
Other	Other wastes

Notes: (1) Packaging fractions are indicated with green shading. (2) Yellow shading refers to fractions of hazardous waste known to contain packaging, but for which no data on packaging arisings are available.

3. Estimated Composition of Municipal Waste

The estimated composition of municipal waste and recycling streams in England is presented here. These estimates relate to England during 2006/07. All the tables presented in this section have also been provided in an Excel file.

The composition of household waste and recycling streams is shown in Table 3.1, with the composition of non-household streams presented in Table 3.2, with data relating to packaging fractions marked in green shading. Summaries for composition of all household waste and municipal waste are shown in, respectively, Tables 3.3 and 3.4. Some packaging is also known to arise in some hazardous waste fractions, marked with yellow shaded cells in Tables 3.1 to 3.4; see Section 3.1.

It is important to bear in mind that the level of confidence in data varies according to different packaging fractions and across the various waste and recycling streams. The fact that estimates have been provided for all packaging fractions addressed in this report, and across all waste and recycling streams should not be interpreted as meaning that comprehensive data is available. However there is reasonable data available for the arisings of primary categories of materials (ie all paper, etc) across most of the waste and recycling streams from the WR0119 study; and this can be used as a basis for estimating the arisings of packaging fractions where there are data gaps. An indication of data confidence for the different packaging fractions and waste streams is provided in Table 3.5.

3.1.1 Arisings of biodegradable municipal waste

The compositional estimates presented in this report are consistent with those in the WR0119 study, which found that biodegradable municipal waste accounted for 66.7% of municipal waste in England during 2006/07, with a 95% confidence interval of 6.7% (i.e. $66.7\% \pm 6.7\%$). For further details about this estimate, please refer to Annex 4 of the WR0119 report².

3.2 Packaging arisings in hazardous waste

There is plenty of anecdotal evidence that a significant proportion of the materials identified as hazardous waste in waste compositional studies consists of packaging, i.e. containers for the hazardous item. The hazardous waste fractions which are suspected of containing significant proportions of packaging are marked with yellow shading in Tables 3.1 to 3.4.

Unfortunately there is no data available on the proportion of these fractions which might consist of packaging. However if, for the sake of argument, we were to assume that 50% by weight of these fractions consist of packaging, this would suggest that around 45,000 tonnes of the material classified as hazardous waste consists of packaging, representing around 0.2% of household waste and recycling in England during 2006/07.

An additional uncertainty is that some packaging for hazardous items may be included in other fractions (such as glass or plastic bottles).

Two projects are currently being carried out which may, in due course, throw some further light on these issues:

- Community RePaint trial (managed by Resource Futures) which includes attempting to estimate the weight of packaging in paint disposed of in household waste.
- A Defra funded project, HSE1101 Recycling of Home and Garden Pesticide containers, currently being delivered by AEA.

² <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=15133>

3.3 Packaging arisings in municipal waste – summary

A summary of packaging arisings identified in household waste and recycling streams for England during 2006/07 is presented in Table 3.3, with a summary for all municipal waste and recycling in Table 3.4. There are uncertainties around these data (as illustrated in Table 3.5); nonetheless, they represent the best available national estimates for packaging arisings which are based upon compositional data.

The data in Table 3.3 indicates that the packaging arisings in household waste and recycling accounted for around 5.2 million tonnes in England during 2006/07. An estimated 1.6 million tonnes of this material was estimated to be recycled, representing an overall capture rate for packaging of 31.9%.

The corresponding data for municipal waste (Table 3.4) indicates that around 6.0 million tonnes of packaging arose in municipal waste and recycling streams in England during 2006/07, of which an estimated 1.7 million tonnes was recycled. This corresponds to an overall capture rate for packaging in England's municipal waste of 28.5% during 2006/07.

Table 3.1: Estimated composition of household waste and recycling streams, England 2006/07

Primary category	Secondary category	Kerbside residual	Kerbside recycling	HWRC residual (household)	HWRC recycling	BWC residual	Street cleansing etc	Bring site recycling	Street bins recycling	"Other means" recycling	ALL HOUSEHOLD, tpa	ALL HOUSEHOLD, % arising
Organics	Food waste	4,457,189	51,096	91,234	298	183	109,924	2,071	0	0	4,711,994	18.28%
	Garden waste	873,263	1,643,108	135,269	1,131,248	6,128	78,458	10,607	0	42,436	3,920,517	15.21%
	Other organics	379,210	12,118	24,706	1	88	63,696	480	0	0	480,297	1.86%
Paper	Paper packaging	69,999	11,230	4,812	692	24	4,533	1,018	37	1	92,347	0.36%
	Other paper	1,736,921	1,817,206	119,410	111,994	605	112,482	164,676	6,004	103	4,069,402	15.79%
Card	Card packaging	569,999	267,283	63,577	105,630	460	42,796	59,307	1,617	80	1,110,748	4.31%
	Other card	160,809	15,052	6,158	5,949	50	2,772	3,340	91	4	194,225	0.75%
Glass	Glass Green bottles	125,712	157,134	5,263	33,205	27	24,480	192,256	4,645	27	542,747	2.11%
	Glass Clear bottles	238,337	125,509	4,646	15,969	51	29,946	92,459	2,234	22	509,171	1.98%
	Glass Brown bottles	40,758	35,577	2,487	6,703	9	6,174	38,810	938	6	131,463	0.51%
	Glass Jars	199,448	156,787	6,107	3,992	43	0	23,115	558	27	390,076	1.51%
	Non-packaging glass	81,188	4,433	44,980	559	372	1,257	803	19	1	133,611	0.52%
Ferrous metals	Ferrous food cans	169,872	88,485	5,555	6,062	0	8,369	6,959	573	173	286,049	1.11%
	Ferrous drinks cans	19,569	12,218	767	837	0	1,156	961	79	24	35,611	0.14%
	Ferrous aerosols	26,458	2,795	175	191	0	264	220	18	5	30,128	0.12%
	Other ferrous packaging	13,743	2,260	142	155	0	214	178	15	4	16,710	0.06%
	Ferrous non-packaging	120,485	4,089	39,910	219,201	859	3,845	755	62	19	389,226	1.51%
Non-ferrous metals	Non-ferrous food cans	3,782	4,965	133	274	0	4,097	314	26	8	13,599	0.05%
	Non-ferrous drinks cans	35,799	21,833	583	1,204	0	18,015	1,382	114	34	78,963	0.31%
	Non-ferrous aerosols	12,474	593	16	33	0	489	38	3	1	13,646	0.05%
	Foil packaging	24,110	1,059	28	58	0	874	67	6	2	26,204	0.10%
	Other non-ferrous packaging	79	38	1	2	0	32	2	0	0	155	0.00%
Plastic film	Non-ferrous non-packaging	50,879	2,157	10,242	160,817	889	1,428	728	60	18	227,218	0.88%
	Plastic bags	220,577	8,647	16,874	639	91	23,633	934	125	25	271,545	1.05%
	Plastic film packaging	339,569	13,627	18,402	1,007	99	31,664	1,472	198	40	406,078	1.58%
Dense plastic	Other plastic film (non-packaging)	306,835	12,313	17,464	910	94	110	1,330	179	36	339,271	1.32%
	Dense plastic drinks bottles	190,625	61,570	8,358	4,556	67	48,448	6,652	893	180	321,348	1.25%
	Dense plastic non-drinks bottles	78,044	16,160	3,422	1,194	27	2,865	1,746	234	47	103,740	0.40%
	Other dense plastic packaging	448,594	10,974	46,865	811	10	14,138	1,186	159	32	522,769	2.03%
Textiles	Other dense plastic (non-packaging)	316,005	19,204	158,133	1,419	2,147	26,627	2,075	279	56	525,945	2.04%
Wood	Textiles and shoes	517,351	29,923	115,939	26,141	1,274	12,710	44,003	0	210	747,551	2.90%
	Wood packaging	5,938	162	5,907	5,573	432	806	129	0	71	19,017	0.07%
WEEE	Other wood	146,991	4,002	383,473	361,795	10,691	3,458	3,186	0	1,759	915,355	3.55%
	WEEE	165,971	26,564	62,744	231,466	97,474	1,701	1,415	0	16,039	603,374	2.34%
Hazardous	Batteries	12,248	500	641	19,313	0	243	175	0	0	33,120	0.13%
	Clinical waste	16,541	59	1,241	2,285	0	0	21	0	0	20,147	0.08%
	Paint/varnish	34,216	5	27,754	202	185	0	2	0	0	62,365	0.24%
	Oil	1,814	149	544	5,747	0	0	52	0	0	8,306	0.03%
	Garden herbicides & pesticides	5,690	59	9,237	2,284	79	982	21	0	0	18,351	0.07%
Sanitary	Sanitary	662,259	0	6,818	4	27	8,181	13	0	0	677,302	2.63%
Composite	Composite packaging	198,486	7,463	7,606	10,704	8	17,541	378	0	0	242,187	0.94%
Other	Other wastes	972,164	8,220	1,118,376	75,580	147,296	194,803	523	0	16,159	2,533,120	9.83%
TOTAL, all categories		14,050,000	4,656,625	2,576,000	2,556,704	269,790	903,210	665,856	19,165	77,649	25,775,000	100.00%
TOTAL, all packaging streams identified		3,031,972	1,006,368	201,726	199,491	1,348	280,534	429,582	12,471	809	5,164,301	20.04%

Table 3.2: Estimated composition of municipal non-household waste and recycling streams, England 2006/07

Primary category	Secondary category	Commercial residual	HWRC residual - non-household	Commercial recycling	ALL NON-HOUSEHOLD, tpa	ALL NON-HOUSEHOLD, % arising
Organics	Food waste	334,702	9,563	0	344,265	13.42%
	Garden waste	55,086	14,178	0	69,265	2.70%
	Other organics	7,465	2,590	0	10,055	0.39%
Paper	Paper packaging	17,520	504	560	18,584	0.72%
	Other paper	434,722	12,516	90,542	537,780	20.97%
Card	Card packaging	352,135	6,664	10,806	369,604	14.41%
	Other card	35,667	645	609	36,921	1.44%
Glass	Glass Green bottles	24,375	552	13,557	38,484	1.50%
	Glass Clear bottles	47,633	487	10,829	58,949	2.30%
	Glass Brown bottles	15,805	261	3,070	19,135	0.75%
	Glass Jars	4,990	640	13,528	19,158	0.75%
	Non-packaging glass	33,907	4,715	382	39,004	1.52%
Ferrous metals	Ferrous food cans	31,549	582	4,579	36,710	1.43%
	Ferrous drinks cans	4,356	80	632	5,069	0.20%
	Ferrous aerosols	997	18	145	1,160	0.05%
	Other ferrous packaging	806	15	117	938	0.04%
	Ferrous non-packaging	24,077	4,183	497	28,757	1.12%
Non-ferrous metals	Non-ferrous food cans	1,949	14	207	2,170	0.08%
	Non-ferrous drinks cans	8,570	61	909	9,540	0.37%
	Non-ferrous aerosols	233	2	25	259	0.01%
	Foil packaging	416	3	44	463	0.02%
	Other non-ferrous packaging	15	0	2	17	0.00%
Non-ferrous non-packaging	13,191	1,074	479	14,744	0.57%	
Plastic film	Plastic bags	61,182	1,769	339	63,290	2.47%
	Plastic film packaging	77,806	1,929	535	80,270	3.13%
	Other plastic film (non-packaging)	12,529	1,831	483	14,843	0.58%
Dense plastic	Dense plastic drinks bottles	25,645	876	2,417	28,939	1.13%
	Dense plastic non-drinks bottles	7,405	359	634	8,398	0.33%
	Other dense plastic packaging	45,299	4,912	431	50,642	1.97%
	Other dense plastic (non-packaging)	77,178	16,575	754	94,507	3.68%
Textiles	Textiles and shoes	43,113	12,152	0	55,265	2.15%
Wood	Wood packaging	26,746	619	0	27,366	1.07%
	Other wood	54,816	40,194	0	95,010	3.70%
WEEE	WEEE	10,615	6,577	0	17,192	0.67%
Hazardous	Batteries	517	67	0	584	0.02%
	Clinical waste	698	130	0	828	0.03%
	Paint/varnish	1,444	2,909	0	4,353	0.17%
	Oil	77	57	0	134	0.01%
	Garden herbicides & pesticides	240	968	0	1,208	0.05%
Sanitary	Sanitary	33,998	715	0	34,713	1.35%
Composite	Composite packaging	4,736	0	0	4,736	0.18%
Other	Other wastes	203,785	118,021	0	321,806	12.55%
TOTAL, all categories		2,137,994	270,006	157,112	2,565,112	100.00%
TOTAL, all packaging streams identified		760,167	20,347	63,366	843,880	32.90%

Table 3.3: Summary of packaging arisings in household waste and recycling, England 2006/07

Primary category	Secondary category	Tonnes per annum	% arising
Organics	Food waste	4,711,994	18.28%
	Garden waste	3,920,517	15.21%
	Other organics	480,297	1.86%
Paper	Paper packaging	92,347	0.36%
	Other paper	4,069,402	15.79%
Card	Card packaging	1,110,748	4.31%
	Other card	194,225	0.75%
Glass	Glass Green bottles	542,747	2.11%
	Glass Clear bottles	509,171	1.98%
	Glass Brown bottles	131,463	0.51%
	Glass Jars	390,076	1.51%
	Non-packaging glass	133,611	0.52%
Ferrous metals	Ferrous food cans	286,049	1.11%
	Ferrous drinks cans	35,611	0.14%
	Ferrous aerosols	30,128	0.12%
	Other ferrous packaging	16,710	0.06%
	Ferrous non-packaging	389,226	1.51%
Non-ferrous metals	Non-ferrous food cans	13,599	0.05%
	Non-ferrous drinks cans	78,963	0.31%
	Non-ferrous aerosols	13,646	0.05%
	Foil packaging	26,204	0.10%
	Other non-ferrous packaging	155	0.00%
	Non-ferrous non-packaging	227,218	0.88%
Plastic film	Plastic bags	271,545	1.05%
	Plastic film packaging	406,078	1.58%
	Other plastic film (non-packaging)	339,271	1.32%
Dense plastic	Dense plastic drinks bottles	321,348	1.25%
	Dense plastic non-drinks bottles	103,740	0.40%
	Other dense plastic packaging	522,769	2.03%
	Other dense plastic (non-packaging)	525,945	2.04%
Textiles	Textiles and shoes	747,551	2.90%
Wood	Wood packaging	19,017	0.07%
	Other wood	915,355	3.55%
WEEE	WEEE	603,374	2.34%
Hazardous	Batteries	33,120	0.13%
	Clinical waste	20,147	0.08%
	Paint/varnish	62,365	0.24%
	Oil	8,306	0.03%
	Garden herbicides & pesticides	18,351	0.07%
Sanitary	Sanitary	677,302	2.63%
Composite	Composite packaging	242,187	0.94%
Other	Other wastes	2,533,120	9.83%
TOTAL, all categories		25,775,000	100.00%
TOTAL, all packaging streams identified		5,164,301	20.04%

Table 3.4: Summary of packaging arisings in municipal waste and recycling, England 2006/07

Primary category	Secondary category	Tonnes per annum	% arising
Organics	Food waste	5,056,259	17.84%
	Garden waste	3,989,782	14.08%
	Other organics	490,352	1.73%
Paper	Paper packaging	110,931	0.39%
	Other paper	4,607,182	16.26%
Card	Card packaging	1,480,353	5.22%
	Other card	231,146	0.82%
Glass	Glass Green bottles	581,232	2.05%
	Glass Clear bottles	568,121	2.00%
	Glass Brown bottles	150,598	0.53%
	Glass Jars	409,234	1.44%
	Non-packaging glass	172,616	0.61%
Ferrous metals	Ferrous food cans	322,760	1.14%
	Ferrous drinks cans	40,680	0.14%
	Ferrous aerosols	31,288	0.11%
	Other ferrous packaging	17,648	0.06%
	Ferrous non-packaging	417,983	1.47%
Non-ferrous metals	Non-ferrous food cans	15,769	0.06%
	Non-ferrous drinks cans	88,503	0.31%
	Non-ferrous aerosols	13,905	0.05%
	Foil packaging	26,666	0.09%
	Other non-ferrous packaging	172	0.00%
	Non-ferrous non-packaging	241,962	0.85%
Plastic film	Plastic bags	334,835	1.18%
	Plastic film packaging	486,348	1.72%
	Other plastic film (non-packaging)	354,114	1.25%
Dense plastic	Dense plastic drinks bottles	350,287	1.24%
	Dense plastic non-drinks bottles	112,138	0.40%
	Other dense plastic packaging	573,411	2.02%
	Other dense plastic (non-packaging)	620,452	2.19%
Textiles	Textiles and shoes	802,816	2.83%
Wood	Wood packaging	46,383	0.16%
	Other wood	1,010,365	3.57%
WEEE	WEEE	620,566	2.19%
Hazardous	Batteries	33,704	0.12%
	Clinical waste	20,975	0.07%
	Paint/varnish	66,717	0.24%
	Oil	8,440	0.03%
	Garden herbicides & pesticides	19,559	0.07%
Sanitary	Sanitary	712,015	2.51%
Composite	Composite packaging	246,922	0.87%
Other	Other wastes	2,854,926	10.07%
TOTAL, all categories		28,340,112	100.00%
TOTAL, all packaging streams identified		6,008,181	21.20%

Table 3.5: Indicators of data confidence for packaging arisings in municipal waste and recycling streams, England 2006/07

Secondary category: packaging fractions only	Kerbside residual	Kerbside recycling	HWRC residual (household)	HWRC recycling	BWC residual	Street cleansing etc	Bring site recycling	Street bins recycling	"Other means" household recycling	Commercial residual	HWRC residual - non- household	Commercial recycling	All municipal streams
Paper packaging	69,999	11,230	4,812	692	24	4,533	1,018	37	1	17,520	504	560	110,931
Card packaging	569,999	267,283	63,577	105,630	460	42,796	59,307	1,617	80	352,135	6,664	10,806	1,480,353
Glass Green bottles	125,712	157,134	5,263	33,205	27	24,480	192,256	4,645	27	24,375	552	13,557	581,232
Glass Clear bottles	238,337	125,509	4,646	15,969	51	29,946	92,459	2,234	22	47,633	487	10,829	568,121
Glass Brown bottles	40,758	35,577	2,487	6,703	9	6,174	38,810	938	6	15,805	261	3,070	150,598
Glass Jars	199,448	156,787	6,107	3,992	43	0	23,115	558	27	4,990	640	13,528	409,234
Ferrous food cans	169,872	88,485	5,555	6,062	0	8,369	6,959	573	173	31,549	582	4,579	322,760
Ferrous drinks cans	19,569	12,218	767	837	0	1,156	961	79	24	4,356	80	632	40,680
Ferrous aerosols	26,458	2,795	175	191	0	264	220	18	5	997	18	145	31,288
Other ferrous packaging	13,743	2,260	142	155	0	214	178	15	4	806	15	117	17,648
Non-ferrous food cans	3,782	4,965	133	274	0	4,097	314	26	8	1,949	14	207	15,769
Non-ferrous drinks cans	35,799	21,833	583	1,204	0	18,015	1,382	114	34	8,570	61	909	88,503
Non-ferrous aerosols	12,474	593	16	33	0	489	38	3	1	233	2	25	13,905
Foil packaging	24,110	1,059	28	58	0	874	67	6	2	416	3	44	26,666
Other non-ferrous packaging	79	38	1	2	0	32	2	0	0	15	0	2	172
Plastic bags	220,577	8,647	16,874	639	91	23,633	934	125	25	61,182	1,769	339	334,835
Plastic film packaging	339,569	13,627	18,402	1,007	99	31,664	1,472	198	40	77,806	1,929	535	486,348
Dense plastic drinks bottles	190,625	61,570	8,358	4,556	67	48,448	6,652	893	180	25,645	876	2,417	350,287
Dense plastic non-drinks bottles	78,044	16,160	3,422	1,194	27	2,865	1,746	234	47	7,405	359	634	112,138
Other dense plastic packaging	448,594	10,974	46,865	811	10	14,138	1,186	159	32	45,299	4,912	431	573,411
Wood packaging	5,938	162	5,907	5,573	432	806	129	0	71	26,746	619	0	46,383
Composite packaging	198,486	7,463	7,606	10,704	8	17,541	378	0	0	4,736	0	0	246,922
TOTAL ALL PACKAGING STREAMS IDENTIFIED	3,031,972	1,006,368	201,726	199,491	1,348	280,534	429,582	12,471	809	760,167	20,347	63,366	6,008,181

Note: Green = moderate to high confidence, Amber = low confidence, Red = no data, estimates inferred from results from other waste or recycling streams.

