

Bury Kerbside Waste Composition Analysis

Survey 1 (Combined)

Greater Manchester Combined Authority

Final Report May 2019



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Project details and acknowledgements

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Background

GMCA’s overarching aim is to increase household recycling across Greater Manchester to 60% by 2020 and reduce household residual waste to 400 kilogrammes/household/year (kg/hh/yr) by 2025. There is therefore a need to establish the composition of the household waste stream, across kerbside and Household Waste Recycling Centre (HWRC) services, to understand how best GMCA can achieve these targets.

The compositional analysis of kerbside collected household waste and recycling covered four waste streams – residual waste, co-mingled (mixed) recycling, pulpables (paper and card) recycling and organics (food and garden) recycling.

The fieldwork was carried out over a twelve-month period covering two seasons; spring/summer and autumn/winter. The results provide an annual representation of kerbside collected waste and recycling for each individual district and GMCA as a whole.

With a greater understanding of the composition of each waste stream, specifically the waste destined for the residual waste container, GMCA will be in a stronger position to identify types and quantities of materials that are not being recycled correctly. This information can then be used to assess the feasibility of GMCA realising their targets.

This report provides the results for the kerbside collection service for Bury only. The results for the remaining eight Districts and the HWRC service are provided in separate reports.

Executive Summary

Results contained within this report represent the annual seasonal average of autumn/winter and spring/ summer surveys. All tables are calculated from the fieldwork exercise and apply to households with individual kerbside collected containers and not multiple occupancy dwellings or flats with the use of communal bins. Results show:

* Households in Bury are producing 226.7kg/hh/year of residual waste; this is within the current target rate of 400kg/hh/yr.
* Against the 2020 GMCA target of 60% recycling, figures from this survey show an average recycling rate of 55% for Bury households. This rate excludes contamination placed within recycling containers.
* The pulpables recycling scheme is currently achieving a diversion rate of 9.6% with 84% of all acceptable materials captured. Figures suggest that 83.6% of recyclable paper and 84.5% of recyclable card and cardboard are captured by this collection. Contamination within this recycling stream is 16.6% which equates to 12.2kg/hh/yr with 11.1kg/hh/yr remaining in the residual waste stream.
* The co-mingled recycling scheme is currently achieving a diversion rate of 13.4% with 86.8% of all acceptable materials captured. Figures suggest that 84% of plastic bottles, 91.4% of glass bottles and jars and 71.9% of recyclable metals are captured by this collection. Contamination within this recycling stream is 23.1% which equates to 25.5kg/hh/yr with 12.5kg/hh/yr of these materials remaining in the residual waste stream.
* The organics recycling scheme is currently achieving a diversion rate of 31.9% with 74.5% of all acceptable materials captured. Figures suggest that 42.5% of food waste and 98.9% of garden vegetation are captured by this collection. Contamination within this recycling stream is 9.4% which equates to 20.9kg/hh/yr with 64.4kg/hh/yr of these materials remaining in the residual waste stream.
* Food waste forms 26% of waste in residual bins, equating to 59.1kg/hh/yr, and is responsible for 67% of the recyclable material present. Over three quarters of the food in the residual bins (81%) is avoidable. If households did not dispose of any edible food waste, then the total amount of residual waste would fall to around 167.6kg/hh/yr and increase diversion to 60.1%.
* 38.8% of residual waste consists of materials that can be recycled at the kerbside, this equates to 88kg/hh/yr of unrecycled materials. Around 5% of residual waste should be in the pulpable recycling bins, 6% should be in co-mingled recycling bins and 28% should be in organic recycling bins.
* If all of these materials were correctly recycled, then the current maximum achievable diversion is 69.7%.
* Textiles are not currently an option for residents to recycle at the kerbside, however they are readily accepted at bring banks, charity shops or local recycling centres. Potentially collectable clothing and fabrics accounted for 12.7kg/hh/yr or 5.6% of the residual waste. By not placing these materials into residual bins then diversion would increase from 55.0% to 56.1%.
* Disposable nappies and AHP waste are a major component of the residual waste forming 10.3% or 23.3kg/hh/yr of the total. If schemes were in place to collect this waste separately or householders’ chose to use washable nappies, then diversion would increase from 55.0% to 57.1%.
* GMCA may choose to expand its mixed recycling collections to include liquid cartons (Tetrapaks) and plastic tubs, pots and trays. The items are present both in the residual waste and also are regularly incorrectly recycled via the current scheme. Bury households are generating around 15.7kg/hh/yr of these materials. If these items became recyclable at the kerbside and all were correctly recycled, then potentially the achieved diversion would increase from 55.0% to 57.5%

Residual (General) waste – 78% of households set out their residual waste bin for collection

Bury households dispose of 226.7kg/hh/yr of residual waste. Collections take place every three weeks. The survey shows that 38.8% of the waste found in the residual bin is recyclable which equates to 88kg/hh/yr. The bulk of the recyclable material is food waste which accounts for 59.1kg/hh/yr or 26.1% of the recyclable material that is present.

39% or 88kg/hh/yr of residual waste is recyclable

|  |  |  |
| --- | --- | --- |
| **Recyclable materials** | **KG/HH/YR** | **%** |
| **Recyclable paper** | **5.6** | **2.5%** |
| **Recyclable card and cardboard** | **5.4** | **2.4%** |
| **Plastic bottles** | **2.7** | **1.2%** |
| **Recyclable glass** | **5.4** | **2.4%** |
| **Recyclable metals** | **4.4** | **1.9%** |
| **Recyclable food waste** | **59.1** | **26.1%** |
| **Recyclable garden waste** | **1.5** | **0.7%** |
| **Recyclable pet bedding** | **3.8** | **1.7%** |
| **Total** | **88.0** | **38.8%** |

Pulpables (Paper and card) recycling – 64% of households set out these bins for collection

Bury households place 73.2kg/hh/yr of material in their pulpable recycling bins. Collections take place every three weeks. Of the materials households are recycling in this bin, around 16.6% or 12.2kg/hh/yr is formed from contaminants which are unacceptable to the scheme. Around 44% of the contamination is due to non-recyclable paper and card such as tissue paper, wallpaper, greaseproof paper and laminated card. Food waste formed 9% of the contamination with co-mingled recyclables contributing 3%. The remaining contamination came from a range of residual waste items most notably bagged waste, wood and plastic film. Of all the recyclable paper generated by households, 84% is correctly captured in the pulpable recycling bin. The proportion of card and cardboard successfully captured is slightly higher at around 85%.

|  |  |  |  |
| --- | --- | --- | --- |
| **Recyclable materials** | **KG/HH/YR** | **%** | **Capture rate** |
| **Recyclable paper** | **29.3** | **40.1%** | **83.6%** |
| **Recyclable card & cardboard** | **31.7** | **43.3%** | **84.5%** |
| **Contamination** | **12.2** | **16.6%** | **-** |
| **Total** | **73.2** | **100.0%** | **84.0%** |

Co-mingled (Mixed) recycling – 65% of households set out these bins for collection

Bury households place 110.7kg/hh/yr of material in their co-mingled recycling bins. Collections take place every three weeks. Of the materials households are recycling in this bin, around 23.1% or 25.5kg/hh/yr is formed from contaminants which are unacceptable to the scheme. Around 20% of contamination is due to contained liquids with 13% non-packaging dense plastics, 14% plastic tubs, pots and trays, 13% food waste, 6% non-recyclable metals and 6% non-recyclable glass. The remaining contamination came from a range of residual waste items including ceramics, bagged household waste, HHW and WEEE.

|  |  |  |  |
| --- | --- | --- | --- |
| **Recyclable materials** | **KG/HH/YR** | **%** | **Capture rate** |
| **Plastic bottles** | **14.9** | **13.5%** | **84.0%** |
| **Glass bottles and jars** | **58.5** | **52.9%** | **91.4%** |
| **Tins, cans, aerosols & foil** | **11.7** | **10.6%** | **71.9%** |
| **Contamination** | **25.5** | **23.1%** | **-** |
| **Total** | **110.7** | **100.0%** | **86.8%** |

Of all the recyclable metal set out at the kerbside for collection, 71% is correctly captured in the co-mingled recycling bin, which means 29% of potentially recyclable material (tins, cans, aerosols and foil) is not being recycled. The proportion of plastic bottles successfully recycled is 83% with 92% of all glass bottles and jars also captured by the co-mingled recycling bin.

Organics (Food and garden) recycling – 50% of households set out these bins for collection

Bury households place 223.3kg/hh/yr of material in their organics recycling bins. Collections take place every two weeks. Of the materials households are recycling in this bin, around 9.4% or 20.9kg/hh/yr is formed from contaminants which are unacceptable to the scheme. Around 66% of contamination is due to soil and turf with 7% scrap wood waste.

|  |  |  |  |
| --- | --- | --- | --- |
| **Recyclable materials** | **KG/HH/YR** | **%** | **Capture rate** |
| **Food waste** | **46.9** | **21.0%** | **42.5%** |
| **Garden vegetation** | **154.6** | **69.2%** | **98.9%** |
| **Organic pet bedding** | **0.5** | **0.2%** | **11.3%** |
| **Contamination** | **20.9** | **9.4%** | **-** |
| **Total** | **223.3** | **100.0%** | **74.5%** |

Of all the recyclable food waste generated by households, 43% is correctly captured in the organic recycling bin, which means 57% (63.6kg/hh/yr) of potentially recyclable food is not being recycled. Of the food waste being recycled, 62% is classified as avoidable. This proportion is lower than that seen for food disposed of in the residual bins. Almost all (99%) of garden vegetation is correctly recycled.

Separation of waste

Figures from this analysis suggest Bury households currently generate around 633.9kg/hh/yr of waste and recycling for kerbside collection. A total of 348.5kg/hh/yr of this is correctly recycled giving a recycling rate of 55%. An additional 14% (88kg/hh/yr) is formed from recyclable material placed into the residual bins. Finally, there is 5.6kg/hh/yr or 1% of kerbside waste that is due to recyclable material placed into the incorrect recycling bin. If all of the recyclable material that is disposed of at the kerbside were placed into the correct recycling container then the potential rate for diversion would be 69.7%.

Levels of contamination in the recycling bins were relatively high. In total, of the 633.9kg/hh/yr of total kerbside waste and recycling around 58.7kg/hh/yr is contamination found in the recycling bins (either residual materials or recyclables in the wrong container). This represents over 9% of the total weight set out by householders at the kerbside, levels of contamination in the pulpable and co-mingled recycling are 17% and 23% respectively.

|  |  |  |
| --- | --- | --- |
| Kerbside waste separation | KG/HH/YR | % By weight |
| **Residual waste in residual bin** | **138.7** | **21.9%** |
| **Recycling in residual bin** | **88.0** | **13.9%** |
| **Correctly recycled materials** | **348.5** | **55.0%** |
| **Incorrectly recycled material** | **5.6** | **0.9%** |
| **Residual material in recycling** | **53.1** | **8.4%** |
| Total kerbside waste | **633.9** | **100.0%** |

Introduction

The Greater Manchester Combined Authority (GMCA) disposes of the waste collected by its nine member Districts - Bolton MBC, Bury MBC, Manchester CC, Oldham Council, Rochdale MBC, Salford CC, Stockport MBC, Tameside MBC and Trafford MBC. A four-stream kerbside collection service is operated across all Districts covering co-mingled recycling, pulpable recycling (paper and card), organics recycling (combined food waste and garden waste) and residual waste. Districts also offer recycling services for flats and householders using communal bins, in some cases this is a reduced service.

Co-mingled (Mixed) recycling

* Plastic bottles
* Food tins
* Tin foil
* Drinks cans
* Aerosols
* Glass jars and bottles

Pulpables (Paper and card) recycling

* Egg boxes
* Cardboard
* Card packaging
* Newspapers, magazines, brochures, envelopes and junk mail

Organics (Food and garden) recycling

* Tea bags and coffee grounds
* Fruit and vegetables
* Meat and bones (cooked and uncooked)
* Breads and pastries
* Dairy (e.g. cheese) and eggshells
* All cooked and uncooked food, grass, flowers, hedge and plant cuttings
* Hay and straw

In addition to these regular kerbside collections there is the provision of twenty Household Waste Recycling Centres (HWRCs) for the use of Greater Manchester residents.

Materials accepted (varies between sites):

* Batteries
* Car batteries
* Co-mingled recycling (glass bottles and jars, plastic bottles, aerosols, foil, food and drink cans)
* Cooking oil
* Engine oil
* Fluorescent tubes
* Fridges and freezers
* Garden waste
* Gas bottles
* General waste
* Hardcore and rubble
* Household chemicals
* Large and small electrical appliances
* Media
* Paper and card
* Print cartridges
* Scrap metal
* Textiles
* Timber and wood
* TV and monitors
* Tyres

As part of a continuing drive to reduce the levels of waste being generated, and to identify possibilities for increasing the efficiency with which recyclables are separated, GMCA commissioned M·E·L Research to undertake a series of waste surveys that would determine:

1. Survey 1 - The composition of all kerbside collected waste and recycling streams;
2. Survey 2 - The composition of materials taken by householders to the HWRCs; and
3. Survey 3- Why residents are bringing waste to the HWRCs, what materials they are disposing of, site satisfaction and catchment areas.

The findings for each of the surveys listed above are contained in separate reports. This report covers the results of the average composition of household waste and recycling collected directly from the kerbside (Survey 1) and relates specifically to households within the Bury MBC area.

Since 2011 there have been a number of changes to kerbside collection services. These include changing the frequency of residual waste collections to three weekly from two weekly or reducing residual bin capacity from 240L to 140L. The frequency of some recycling collections has also been changed. GMCA has set clear targets to increase household recycling across Greater Manchester to 60% by 2020 and reduce household residual waste to 400kg/hh/yr by 2025. Findings from the surveys being undertaken will help to gauge progression towards these targets. The results will show whether the targets are achievable and, if that is the case, where attention should be focused in order to achieve or surpass them.

Sampling

The aim of Survey 1 was to sample representative households from within Bury to gain the best overall picture of the waste and recycling being disposed of by its residents at the kerbside. In order to obtain this objective, all households within Bury were classified using socio-demographic profiling. M·E·L Research uses licenced software, supplied by CACI ltd, which segments postcodes into various subsets called Acorns (A Classification Of Residential Neighbourhoods)[[1]](#footnote-2). Acorn segments postcodes into 6 Categories, 18 Groups and 62 types, three of which are not private households. By analysing significant social factors and population behaviour, it provides detailed information and in-depth understanding of the different types of people within an area.

Eight dominant Acorn groups were selected to represent the dominant types of householders in Bury. These were spread throughout the main five private household Acorn categories and represented 77.3% of the householder types present throughout the District (minimum target 75%). These selected groups are highlighted in yellow in Table 1. A selection of households from the selected Acorn groups were sent a letter to make them aware of the waste survey and to give them an opportunity to opt out.

Table 1: Acorn household profile for Bury

|  |  |  |
| --- | --- | --- |
| **Acorn 1 - Affluent Achievers** | | |
| 1.A | Lavish Lifestyles | **0.5%** |
| 1.B | Executive Wealth | **11.7%** |
| 1.C | Mature Money | **13.4%** |
| **Acorn 2 - Rising Prosperity** | | **3.2%** |
| 2.D | City Sophisticates | **0.0%** |
| 2.E | Career Climbers | **3.2%** |
| **Acorn 3 - Comfortable Communities** | | |
| 3.F | Countryside Communities | **0.4%** |
| 3.G | Successful Suburbs | **6.8%** |
| 3.H | Steady Neighbourhoods | **10.9%** |
| 3.I | Comfortable Seniors | **2.6%** |
| 3.J | Starting Out | **6.4%** |
| **Acorn 4 - Financially Stretched** | | |
| 4.K | Student Life | **0.1%** |
| 4.L | Modest Means | **10.3%** |
| 4.M | Striving Families | **5.3%** |
| 4.N | Poorer Pensioners | **6.1%** |
| **Acorn 5 - Urban Adversity** | | |
| 5.O | Young Hardship | **10.3%** |
| 5.P | Struggling Estates | **4.4%** |
| 5.Q | Difficult Circumstances | **7.4%** |
| **Acorn 6 - Not Private Households** | | |
| 6.R | Not Private Households | **0.2%** |

Highlighted Acorn groups were selected for analysis throughout Bury

The analysis provides the following outputs:

* An understanding (using socio-demographic profiling) of which types of householders are producing which types of waste and which types of householders are using the recycling provision most effectively
* Total amounts of presented material for each of the four kerbside collection schemes
* Information on the levels of recyclable materials found in the residual waste container
* Amount and types of contamination found in the recycling containers
* Capture rates for individual materials included in each recycling stream
* The amount of overall waste diverted by each recycling scheme and overall

Table 2 shows the kerbside collection system currently available for Bury households.

Table 2: Kerbside waste and recycling collections for Bury householders

|  |  |  |
| --- | --- | --- |
| **Waste stream** | **Containers** | **Collection frequency** |
| Co-mingled  (Mixed) recycling | 140L / 240L | Every 3 weeks |
| Pulpables  (Paper and card) recycling | 140L / 240L | Every 3 weeks |
| General waste  (Residual) | 240L | Every 3 weeks |
| Organics  (Combined food and garden) recycling | 140L / 240, Street caddy / Kitchen caddy | Every 2 Weeks |

Table 3 provides reference for the total recorded annual tonnages for the main waste and recycling streams collected throughout Bury. The appendix section applies these tonnage figures to the percentage composition data from this survey.

Table 3: 2017/18 waste tonnages

|  |  |
| --- | --- |
| **Waste stream** | **Tonnes per annum (tpa)** |
| Co-mingled (mixed dry recyclables excl. pulpables) | 9,231.00 |
| Organics (Food and Garden) | 17,075.94 |
| Pulpables (Paper & Card) | 7,823.47 |
| Residual (General Waste) | 28,533.74 |
| Trade Waste | 4,906.91 |
| Grand Total | **67,571.06** |

Methodology and Analysis

Households were selected for inclusion in the survey on the basis that they had not opted out and were part of one of the eight nominated Acorn groups shown in Table 1. These selected households were initially sampled during the spring and summer of 2018.

The same range of households was then re-visited during survey 2 (autumn/winter) with the same waste containers again surveyed.

The number of households setting out each waste/recycling was recorded, with the aim of collecting all presented waste and recycling. In some instances, it was not possible to collect all presented waste/recycling (resident refuses, bins too heavy to manhandle or contain hazardous materials or total weight of waste exceeds vehicle capacity). The collected residual waste from each household was bulked together for sorting as a single sample as were the samples of recycling from each household.

The manual hand sorting of the collected waste/recycling gave concentration by weight figures for each of the main categories of waste, as well as the more detailed sub-categories. This gives an indication as to the proportion of each waste category and is expressed as a percentage (by weight). This percentage can be translated into a figure relating to the average waste generation expected for each waste category. This is calculated in kilograms per household per week (kg/hh/wk) and then converted to kilograms per household per year (kg/hh/yr). As this is the unit the GMCA has used to for waste targets.

The amount of waste kg/hh/yr is calculated from the total number of households surveyed and not just those that are participating. This is most representative of the amount of waste that will be collected by regular crews.

For example; where 50 bins of waste are collected from **75** households the set-out rate is 67%.

The total amount of collected waste from the presented bins is **1,250kg**.

Bins are collected on a **three-weekly** basis.

Waste generation = **1,250kg** / **75** households = **16.7kg**

**16.7kg** / **3 weeks** = **5.6kg/hh/wk** or **290kg/hh/yr**

By knowing the composition of waste from the various Acorn samples it is possible to gain an insight into the make-up and volumes of the residual waste that can be expected across Bury as a whole. Figures expressed as an average for Bury are weighted from the results for each sample across the two seasonal surveys. This accounts for their relative prominence across the District as per their proportion in Table 1.

Statistical Accuracy

In the compositional analysis data tables contained within this report, we have presented figures for the average kg/hh/yr and percentage of waste that falls into each of the compositional categories. To get an indication of the reliability of these figures (given that they are based on analysing just a sample of all the waste being generated) we use a standard statistical technique to generate a ‘confidence interval’, which is a way of representing the possible range of error resulting from using a sample rather than analysing it all.

To do this we have applied validated error tests, which have been standardised for the sampling and analysis technique we use at M·E·L Research, based on controlled testing of both sampling error (caused by taking a sample of the waste and not all of it), and also what is termed instrument (observational) error, which reflects the accuracy of the hand sorting technique used by our analysts. These can be combined statistically to produce an estimate of the accuracy of compositional statistics for this phase.

Based on this standard method, the percentages quoted from the standard M·E·L sampling protocol for compositional analysis can be taken as accurate for each material category to within error bands of +/-10% at the 95% confidence level (note that these accuracies are based on assuming a ‘normal statistical distribution’ in the way waste is being disposed of by the households in the selected samples). This means that, for any of the main compositional category headings, we are 95% confident that the figure we quote based on analysing the sample, is within +/- 10% of the true figure you would get if you analysed all the waste that arrives during a typical collection week.

Results – Residual waste

Set out rates

Households throughout Bury have access to a three-weekly collection of residual waste. Averaged for the two seasonal surveyed, it was seen that 78% of households presented residual bins for collections. Ranges were from 59.5% for Acorn 4L (modest means) up to 93.5% for Acorn 1B (executive wealth).

Figure 1: Set out rates for residual waste (%)

Waste generation levels

On average, results from this surveys suggested 226.7kg/hh/yr of residual waste was generated by Bury households. Less than 186kg/hh/yr of residual waste was generated by Acorn 4L (modest means) households, compared with Acorn 5Q (difficult circumstances) households who generated 267.7kg/hh/yr. Solely considering presented bins; the average amount of waste generated is 291.1kg/hh/yr.

Table 4: Kerbside residual waste

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample** | **% set out rate** | **Overall KG/HH/YR\*** | **KG/HH/YR per presented bin\*\*** |
| 1B | 93.5% | 250.5 | 267.9 |
| 1C | 74.6% | 188.9 | 253.0 |
| 3G | 74.4% | 186.6 | 250.9 |
| 3H | 89.6% | 250.7 | 279.8 |
| 3J | 89.1% | 256.1 | 287.4 |
| 4L | 59.5% | 185.7 | 311.8 |
| 5O | 66.5% | 243.6 | 366.5 |
| 5Q | 76.6% | 267.3 | 348.8 |
| AVERAGE | 77.89% | 226.7 | 291.1 |

\* The overall kg/hh/yr refers to the total amount of waste generated by all of the households surveyed at the time waste was collected. This includes households that did not present a bin for collection. This figure is the most realistic estimate for the waste generation for a given area as there are always a proportion of households that will not present a bin for every collection.

\*\*Kg/hh/yr for presented bins is used for comparative purposes and is always higher as it only apples to the collected bins and does not account for households not setting out waste. In effect this is the level of waste that would be generated were there a 100% set out rate.

Figure 2: KG/HH/YR for residual waste

Compositional analysis of residual waste

This section looks at the average composition of the household residual waste collected across Bury. It provides information on the main materials present and highlights any differences between the various Acorn group samples and the proportion of recyclable material that each contains. Detailed data sheets are displayed in a separate data appendix.

Figure 3 shows that by far the greatest concentration of material (by weight) was putrescible material, accounting for over a quarter of the residual waste (30% or 68.2kg/hh/yr). This category includes food waste, garden waste, consumable liquids and biodegradable pet bedding. Food waste was the most prevalent material forming around 87% of the putrescibles present in residual waste bins. 19% (46.4kg/hh/yr) of the material in the residual waste was miscellaneous combustibles. This category includes a broad range of items such as nappies, wood, animal waste and general bric-a-brac. Almost half of this type of waste was due to disposable nappies, which alone, accounted for 10.3% (23.3kg/hh/yr) of residual waste.

Figure 3: Main materials in the residual waste (Kg/hh/yr and % by weight)

\*all unsortable fragments <10mm in size

Pulpables (Paper and card)

Overall, 12.5% or 28.4kg/hh/yr of the total weight of residual waste surveyed across Bury was due to paper and card. Of this, 39.8% was suitable for recycling at the kerbside in the form of recyclable paper (newspapers, magazines, envelopes, brochures, junk mail and copy paper etc.) and recyclable card and cardboard (corrugated cardboard, packaging card and greetings cards). Householders are therefore estimated to be placing 11.1kg/hh/yr of recyclable pulpables (paper and card) in their residual bins.

The majority (60.2%) of paper and card in the residual waste is, however, classed as non-recyclable for the pulpable recycling collections and includes items such as used wallpaper, tissue paper, waxed or greaseproof paper, laminated or mixed material card.

**Figure 4: Average paper and card content of the residual waste (kg/hh/yr)**

From individual samples it was seen that Acorn 4L households (modest means) disposed of just 6kg/hh/yr of recyclable paper and card in their residual bins compared with 16kg/hh/yr for Acorn 5Q (difficult circumstances).

Whereas just 26% of the paper and card in the residual bins from Acorn 4L (modest means) was of a recyclable type, this ratio was 51% for Acorn 5Q (difficult circumstances) households.

Co-mingled (Plastic, metal and glass)

Overall, 23.5% or 53.2kg/hh/yr of the total weight of residual waste surveyed across Bury was due to plastic, metal and glass waste. Of this, 23.5% was suitable for recycling at the kerbside via co-mingled recycling bins (plastic bottles, glass bottles and jars, tins, cans foil and aerosols). Householders are therefore estimated to be placing 12.5kg/hh/yr of recyclable co-mingled items (recyclable plastic, metal and glass) in their residual bins.

The majority (76.5%) of plastic, metal and glass in the residual waste is, however, classed as non-recyclable for the co-mingled recycling collections and includes items such as plastic film, plastic tubs, pots and trays, polystyrene, non-packaging glass and scrap metal.

**Figure 5: Average plastic, metal and glass content of the residual waste (kg/hh/yr)**

From individual samples it was seen that Acorn 3G (successful suburbs) households disposed of just 7.6kg/hh/yr of recyclable plastic, metal and glass in their residual bins compared with 18.5kg/hh/yr for Acorn 1C (modest means) households.

Additionally, whereas just 16% of the plastic, metal and glass in the residual bins from Acorn 4L households (modest means) was of a recyclable type, this ratio was 33% for Acorn 1C (mature money) households.

Organics (Food and garden)

Figure 3 shows that by far the greatest concentration of material in the residual waste for all samples was putrescible waste. This category is made up of food waste, consumable liquids garden waste and organic pet bedding. Overall, 30.1% or 68.2kg/hh/yr of residual waste surveyed across Bury was deemed to be putrescible in nature. Overall 87% of the putrescible material was due to recyclable food waste and this accounted for 27% or 61.7kg/hh/yr of all residual waste. Combined, garden vegetation and organic pet bedding amounted to just 6.6kg/hh/yr in the residual waste. Therefore, a total of 64.5kg/hh/yr or 28% of all residual waste is of a type that could have been recycled via the organic collection bins. Overall 94.5% of the organic material within residual bins is deemed to be recyclable with just 5.5% classed as non-recyclable.

**Figure 6: Putrescible content of the residual waste (kg/hh/yr)**

Food waste in this report is shown using WRAPs food and drink categorisations:

1. **Avoidable** – food thrown away that was, at some point prior to disposal, edible (e.g. slice of bread, apples, meat). This includes unused fully packaged food waste; part used food waste in packaging and loose food waste;
2. **Possibly avoidable** – food that some people eat, and others do not (e.g. bread crusts), or that can be eaten when a food is prepared in one way but not in another (e.g. potato skins and vegetable peelings); and
3. **Unavoidable** – waste arising from food preparation that is not, and has not been, edible under normal circumstances (e.g. meat bones, eggshells, pineapple skin, tea bags).

Figure 7: Recyclable food content of the residual waste

On average 26% of all residual waste consisted of food waste, equating to 59kg/hh/yr. Of all the food waste being placed into residual bins, 81% was avoidable with a further 4% potentially avoidable. Therefore, each household places an average of 48kg/hh/yr of avoidable food in their residual bins.

From individual samples it was seen that Acorn 1C (mature money) disposed of the least food waste in their residual bins at around 36.9kg/hh/yr. This compares with levels of 84.3kg/hh/yr for Acorn 3J (starting out).

Across the samples the proportion of all food waste that was avoidable ranged between 68% for Acorn 3J (starting out) up to 88% for Acorn 1B (executive wealth), with an average of 81%.

Of the avoidable food, 70% was disposed of packaged. This is food waste either totally unopened or part used and still within its original packaging. Of all the food in the residual bins, between 49% for Acorn 3H (steady neighbourhoods) and 4L (modest means) and 66% for Acorn 1B (executive wealth) was packaged – 57% for Bury.

Potential recyclability of the residual waste

Overall, 38.8% or 88kg/hh/yr of residual waste is deemed to be acceptable to either the pulpable, co-mingled or organic recycling collections.

**Figure 8: Proportion of waste placed in residual bins that is accepted in current schemes (%)**

**Figure 9: Recyclable waste placed in residual bins that is accepted in current schemes (kg/hh/yr)**

Results - Pulpable recycling (Paper and card)

Set out rates and amount of recycling

Households throughout Bury have access to a three-weekly collection of Pulpables (paper and card) recycling. Average figures suggest 64% of households set out their paper and card recycling bins for collection. Set out rates ranged from 45% for Acorn 5Q households (difficult circumstances) up to 84% for Acorn 1B (executive wealth) households. Households generate an average of 73.2kg/hh/yr of pulpable recycling. This equates to around 114.4kg/hh/yr when solely considering presented bins.

Acorn 5Q households had the lowest set out rate and generated some of the least recycling (both on average and per presented bin). This suggests that the service is not being used effectively by residents for the disposal of recyclable paper and card. Acorn 4L (modest means) has a low set out rate but presented the heaviest bins. This may suggest they are building up the recycling and only putting it out for collection when it is full.

**Table 5: Pulpable recycling**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample** | **% Set out rate** | **Overall KG/HH/YR** | **KG/HH/YR per presented bin** |
| 1B | 84.0% | 95.1 | 113.2 |
| 1C | 65.1% | 77.5 | 119.2 |
| 3G | 56.8% | 41.7 | 73.4 |
| 3H | 73.9% | 85.2 | 115.3 |
| 3J | 74.0% | 89.4 | 120.8 |
| 4L | 48.3% | 79.6 | 165.0 |
| 5O | 57.2% | 49.9 | 87.2 |
| 5Q | 44.7% | 51.3 | 114.9 |
| AVERAGE | 64.0% | 73.2 | 114.4 |

The overall kg/hh/yr refers to the total amount of recycling generated by all of the households surveyed. This includes households that did not present a container for collection. This figure is the most accurate estimate for the recycling generation for a given area as there are always a proportion of households that will not present a container for every collection.

Kg/hh/yr for presented containers is used for comparative purposes and is always higher as it only applies to the containers collected and does not account for households not setting out waste. In effect this is the level of recycling that would be generated were there a 100% set out rate

**Figure 10: Set out rates for pulpable recycling (%)**

**Figure 11: Kg/** **hh/yr for pulpable recycling**

Compositional analysis

This section looks at average amounts and composition of the paper and card recycling presented by households sampled throughout Bury. Results are again expressed in terms of percentage concentration and kg/hh/yr for individual areas surveyed. Table 6 and Figure 12 show recycling data in terms of percentage composition with Table 7 and Figure 13 showing generation rates for major materials in kg/hh/yr across all households in each sample area.

In previous sections it has been shown that a proportion of the material disposed of in residual bins is classified as recyclable. Collected recycling will also contain a certain amount of material that is deemed to be contamination. That is to say, material that is not compatible with the specific recycling container it is placed into.

On average, 43% (31.7kg/hh/yr) of recycling is recyclable card and cardboard and 40% (29.3kg/hh/yr) is recyclable paper. Therefore 83% (61kg/hh/yr) of the pulpable recycling bin consists of the correct materials and 16% is contamination.

Around 9% (6.8kg/hh/yr) of the presented recycling is non-recyclable paper and card. 2% is organic waste (mainly food) and less than 1% co-mingled recyclables – these materials should have been placed into the other recycling bins that are available. The remaining contamination is made up of residual bin materials such as mixed plastics, bagged waste and wood.

**Table 6: Pulpable recycling (% composition)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Recyclable paper | 36.3% | 54.2% | 40.9% | 45.9% | 33.2% | 40.1% | 28.3% | 24.0% | 40.1% |
| Recyclable card & cardboard | 45.1% | 33.1% | 44.2% | 41.8% | 49.8% | 41.8% | 55.9% | 45.1% | 43.3% |
| Non-recyclable paper & card | 14.8% | 7.1% | 11.2% | 7.7% | 11.3% | 4.8% | 7.3% | 10.2% | 9.2% |
| Co-mingled recyclables | 0.2% | 0.3% | 0.4% | 0.2% | 0.3% | 0.7% | 0.8% | 1.1% | 0.4% |
| Food & garden waste | 1.0% | 0.6% | 1.4% | 1.7% | 2.0% | 3.0% | 2.8% | 3.6% | 1.8% |
| Residual waste | 2.5% | 4.8% | 1.9% | 2.7% | 3.4% | 9.7% | 4.9% | 15.9% | 5.2% |
| Total recyclable | 81.4% | 87.2% | 85.1% | 87.7% | 83.0% | 81.9% | 84.2% | 69.1% | 83.4% |
| Total contamination | 18.6% | 12.8% | 14.9% | 12.3% | 17.0% | 18.1% | 15.8% | 30.9% | 16.6% |

**Figure 12: Pulpable recycling (% composition)**

**Table 7: Pulpable recycling (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Recyclable paper | 34.6 | 42.0 | 17.1 | 39.1 | 29.7 | 31.9 | 14.1 | 12.3 | 29.3 |
| Recyclable card & cardboard | 42.9 | 25.6 | 18.4 | 35.6 | 44.5 | 33.3 | 27.9 | 23.1 | 31.7 |
| Non-recyclable paper & card | 14.1 | 5.5 | 4.7 | 6.5 | 10.1 | 3.8 | 3.6 | 5.2 | 6.8 |
| Co-mingled recyclables | 0.2 | 0.2 | 0.2 | 0.1 | 0.3 | 0.5 | 0.4 | 0.6 | 0.3 |
| Food & garden waste | 0.9 | 0.4 | 0.6 | 1.5 | 1.8 | 2.4 | 1.4 | 1.9 | 1.3 |
| Residual waste | 2.4 | 3.8 | 0.8 | 2.3 | 3.0 | 7.7 | 2.4 | 8.2 | 3.8 |
| Total recyclable | 77.5 | 67.6 | 35.5 | 74.7 | 74.2 | 65.2 | 42.0 | 35.5 | 61.0 |
| Total contamination | 17.7 | 9.9 | 6.2 | 10.5 | 15.2 | 14.4 | 7.9 | 15.8 | 12.2 |

**Figure 13: Pulpable recycling (kg/hh/yr)**

Figure 14 below summarises the average composition of material disposed of in the pulpable recycling. An average of 16.5% of the paper and card recycling bin contents are due to items not acceptable to the collection and therefore deemed to be contamination. Annually this equates to 12.2kg/hh/yr of waste.

**Figure 14: Materials in pulpable recycling bins.**

Pulpable recycling contamination

This section looks to breakdown the 12.2kg/hh/yr of contamination being placed into the recycling across Bury.

Some forms of contamination may be due to residents’ lack of knowledge in relation to the recycling scheme. For example, a householder may believe napkins and tissue are acceptable forms of paper. Other contamination will be formed from waste that is totally unrelated to the materials collected (i.e. disposable nappies, wood or food waste).

**Table 8: Contamination in pulpable recycling bins (%)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Liquid cartons\* | 2.1% | 2.0% | 1.1% | 1.2% | 2.7% | 1.5% | 1.8% | 2.2% | 1.8% |
| Other non-recyclable paper & card | 12.7% | 5.1% | 10.2% | 6.5% | 8.6% | 3.2% | 5.5% | 8.0% | 7.4% |
| Food waste | 1.0% | 0.6% | 1.3% | 1.7% | 2.0% | 1.3% | 2.8% | 3.6% | 1.5% |
| Co-mingled recyclables | 0.2% | 0.3% | 0.4% | 0.2% | 0.3% | 0.7% | 0.8% | 1.1% | 0.4% |
| Other residual waste | 2.5% | 4.8% | 2.0% | 2.8% | 3.4% | 11.4% | 4.9% | 15.9% | 5.5% |
| Total contamination | 18.6% | 12.8% | 14.9% | 12.3% | 17.0% | 18.1% | 15.8% | 30.9% | 16.6% |

**Table 9: Contamination in pulpable recycling bins (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Liquid cartons\* | 2.0 | 1.5 | 0.4 | 1.0 | 2.4 | 1.2 | 0.9 | 1.1 | 1.3 |
| Other non-recyclable paper & card | 12.1 | 3.9 | 4.2 | 5.5 | 7.7 | 2.6 | 2.7 | 4.1 | 5.4 |
| Food waste | 0.9 | 0.4 | 0.5 | 1.4 | 1.7 | 1.1 | 1.4 | 1.9 | 1.1 |
| Co-mingled recyclables | 0.2 | 0.2 | 0.2 | 0.1 | 0.3 | 0.5 | 0.4 | 0.6 | 0.3 |
| Other residual waste | 2.4 | 3.8 | 0.8 | 2.4 | 3.1 | 9.1 | 2.4 | 8.2 | 4.0 |
| Total contamination | 17.7 | 9.9 | 6.2 | 10.5 | 15.2 | 14.4 | 7.9 | 15.8 | 12.2 |

\*Residents are told to place liquid cartons in their residual bins, however recent changes to the cardboard market now means this material has become acceptable to the pulpable collection scheme.

On average 16.6% or 12.2kg/hh/yr of paper and card recycling collected throughout Bury was deemed to be contamination. For Acorn 3H (steady neighbourhoods) households recycling was the least contaminated at 12.3%. In comparison, 30.9% of Acorn 5Q (difficult circumstances) households recycling was due to contamination. Annually, Acorn 1B (executive wealth) households placed the greatest amount of contamination in their recycling bins at 17.7kg/hh/yr.

Around 55% of the contamination (9% of recycling) was due to non-recyclable paper and card along with liquids cartons. General residual waste (including materials such as plastic and plastic film, wood and bagged waste) made up 5.5% of the recycling or 33% of the contamination. Food waste made up 9% of the contamination present with food waste forming 1.5% of recycling. A small amount of material in the paper and card recycling bin was due to co-mingled recyclables. These contributed 0.4% of recycling and 3% of contamination.

Recyclable paper and card within residual bins

Figures show that an average of 38.8% (88kg/hh/yr) of the residual waste collected throughout Bury could have been recycled at the kerbside. Recyclable paper and card accounts for 4.9% (11.1kg/hh/yr) of the residual waste. Therefore, it can be said that 13% of the recyclable content of the residual waste is due to paper and card.

The residual waste from 4L households (modest means) contained around 6kg/hh/yr of recyclable paper and card. Acorn 5Q households (difficult circumstances) disposed of 16kg/hh/r of recyclable paper and card in their residual bins where it accounted for 6% of the total.

**Table 10: Recyclable pulpables placed in residual bins (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Recyclable paper (kg/hh/yr) | 6.0 | 5.8 | 3.7 | 5.8 | 6.0 | 2.4 | 7.0 | 8.6 | 5.6 |
| Recyclable card & cardboard (kg/hh/yr) | 4.5 | 4.3 | 6.4 | 4.2 | 7.6 | 3.6 | 7.8 | 7.5 | 5.4 |
| Total recyclable pulpables (kg/hh/yr) | 10.5 | 10.1 | 10.1 | 9.9 | 13.6 | 6.0 | 14.8 | 16.0 | 11.1 |
| Total recyclable pulpables (% of residual) | 4.2% | 5.3% | 5.4% | 4.0% | 5.3% | 3.2% | 6.1% | 6.0% | 4.9% |

Capture rates for pulpable recycling

This section looks in more detail at the pulpable recycling collections and highlights the effectiveness with they are capturing these items. Capture rates determine how much of a material that should be recycled actually is being recycled. Looking at the relationship between the residual and recycling waste streams presented will additionally give indications as to the overall diversion being achieved via the pulpable recycling bin.

Across Bury it is estimated that 72.6kg/hh/yr of recyclable paper and card is disposed of at the kerbside with around 84% or 61kg/hh/yr being correctly recycled (captured). Acorn 3G (successful suburbs) households created just 45.8kg/hh/yr of these pulpable recyclables respectively. In contrast residents from Acorn 3J (starting out) and 1B (executive wealth) generated 88.3kg/hh/yr of recyclable paper and card.

With the exception of Acorn 5Q (difficult circumstances) households (68%), all samples captured a similar proportion of their recyclable paper and card at between 73% (Acorn 5O – young hardship) and 91% (Acorn 4L – modest means).

**Table 11: Distribution of recyclable pulpables in kerbside containers (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Recyclable pulpables** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Recyclable paper & card in residual bins (kg/hh/yr) | 10.5 | 10.1 | 10.1 | 9.9 | 13.6 | 6.0 | 14.8 | 16.0 | 11.1 |
| Recyclable paper & card recycled (kg/hh/yr) | 77.5 | 67.6 | 35.5 | 74.7 | 74.2 | 65.2 | 42.0 | 35.5 | 61.0 |
| Recyclable paper & card in co-mingled bins (kg/hh/yr) | 0.2 | 0.4 | 0.2 | 0.3 | 0.5 | 0.2 | 0.6 | 0.6 | 0.4 |
| Recyclable paper & card in organics bins (kg/hh/yr) | 0.2 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Total recyclable paper & card disposed of (kg/hh/yr) | 88.3 | 78.8 | 45.8 | 84.9 | 88.3 | 71.4 | 57.5 | 52.1 | 72.6 |
| % Capture of recyclable paper & card | 87.7% | 85.8% | 77.5% | 88.0% | 84.0% | 91.3% | 73.1% | 68.0% | 84.0% |

**Figure 15: Distribution of recyclable pulpables in kerbside containers (kg/hh/yr) by Acorn group and overall**

There are many different forms of paper and card and therefore decisions have to be made by residents as to whether a particular piece is to go into the recycling or residual waste. There is, however, around 12kg/hh/yr of potentially recyclable paper and card not disposed of in recycling bins. Almost all of this is in the residual bins.

Capture rates for card and cardboard were marginally higher (85%) than for recyclable paper (84%). It was especially the case that bulkier corrugated cardboard was well recycled with 94% placed into pulpable recycling bins. In contrast around 74% of thinner card was captured.

Diversion via pulpable recycling collections

The pulpable recycling bin service is responsible for diverting 9.6% of all the kerbside waste presented. This proportion excludes all of the contamination materials that are present within these bins. Acorn 4L (modest means) households are estimated to be diverting 13.1% of their kerbside waste via pulpable recycling bins. The rate for households in the Acorn 5Q (difficult circumstances) area is just 6.3%.

**Table 12: Diversion via pulpable recycling bins (%)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Diversion rates** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Pulpables recycling bin | 9.6% | 9.8% | 6.4% | 9.1% | 12.2% | 13.1% | 10.0% | 6.3% | 9.6% |

Results - Co-mingled Recycling (Glass, metal and plastic)

**Set out rates and amount of recycling**

Households throughout Bury have access to a three-weekly collection of co-mingled recycling consisting of plastic bottles, glass bottles and jars, tins, cans and foil. Average figures suggested 64.8% of households presented co-mingled recycling bins for collection. Ranges seen were 42.1% for Acorn 4L households (modest means) up to 83.1% for Acorn 3H (steady neighbourhoods) households. It was seen that an average of 110.7kg/hh/yr of co-mingled recycling was being generated. This equates to around 171kg/hh/yr when solely considering presented bins.

Acorn 4L (modest means) households and 3G (successful suburbs) households had the lowest set out rates yet presented some of the heaviest bins – averaging 194.4kg/hh/yr. This suggests they are building up the recycling and only putting it out for collection when it is full. In contrast Acorn 3J households (starting out) had a higher than average set out rate of 74.4% but the lowest average bin weights. This suggests that these households use the service more consistently by setting out less recycling on a more frequent basis.

**Table 13: Co-mingled recycling**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample** | **% Set out rate** | **Overall KG/HH/YR** | **KG/HH/YR per presented bin** |
| 1B | 75.8% | 148.3 | 195.6 |
| 1C | 74.1% | 127.3 | 171.8 |
| 3G | 47.9% | 102.7 | 214.5 |
| 3H | 83.1% | 114.2 | 137.5 |
| 3J | 74.4% | 93.2 | 125.3 |
| 4L | 42.1% | 73.4 | 174.3 |
| 5O | 49.9% | 100.4 | 201.2 |
| 5Q | 63.5% | 104.6 | 164.6 |
| Average | 64.8% | 110.7 | 170.7 |

**Figure 16: Set out rates for co-mingled recycling (%)**

**Figure 17: Kg/hh/yr for co-mingled recycling**

Compositional analysis of co-mingled recycling

This section looks at average amounts and composition of the co-mingled recycling presented by households sampled throughout Bury. Results can again be expressed in terms of percentage concentration and kg/hh/yr for individual samples surveyed. Table 14 and Figure 18 show recycling data in terms of percentage composition with Table 15 and Figure 19 showing generation rates for major materials in kg/hh/yr across all households in each sample area.

As residual waste will contain a proportion that is classified as recyclable; then recycling waste will contain a faction that is deemed to contamination. That is to say, that it is not compatible with the materials currently acceptable to the recycling container it is placed into.

On average around 53% (58.5kg/hh/yr) of recycling is due to recyclable glass bottles and jars with 14% (14.9kg/hh/yr) being plastic bottles and 11% (11.7kg/hh/yr) recyclable metals. Therefore around 77% (85.2kg/hh/yr) of recycling bin content consists of the correct materials.

Around 20% (21.8kg/hh/yr) of material in the co-mingled recycling bins is due to waste not recyclable in any of the kerbside collection containers with items such as plastic tubs, pots and trays, plastic film, ceramics, WEEE and contained liquids commonly present. An average of 3% (3.4kg/hh/yr) is organic waste (mainly food) and just 0.3% paper and card – these materials should have been placed into the other recycling bin that are available.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Plastic bottles | 12.3% | 10.6% | 9.3% | 13.9% | 14.1% | 13.7% | 22.4% | 13.1% | 13.5% |
| Glass bottles and jars | 62.9% | 65.1% | 57.5% | 47.9% | 44.8% | 59.1% | 30.6% | 37.4% | 52.9% |
| Tins, cans & foil | 8.9% | 9.1% | 9.8% | 14.2% | 10.2% | 10.8% | 11.8% | 10.7% | 10.6% |
| Paper & card recyclables | 0.1% | 0.3% | 0.2% | 0.2% | 0.5% | 0.3% | 0.6% | 0.6% | 0.3% |
| Food & garden waste | 1.7% | 2.1% | 3.5% | 4.2% | 5.0% | 0.6% | 3.0% | 6.7% | 3.0% |
| Residual waste | 14.1% | 12.7% | 19.9% | 19.6% | 25.3% | 15.5% | 31.6% | 31.5% | 19.7% |
| Total recyclable | 84.1% | 84.8% | 76.5% | 76.0% | 69.1% | 83.7% | 64.8% | 61.2% | 76.9% |
| Total contamination | 15.9% | 15.2% | 23.5% | 24.0% | 30.9% | 16.3% | 35.2% | 38.8% | 23.1% |

**Table 14: Co-mingled recycling (% composition)**

**Figure 18: Co-mingled recycling (% composition)**

**Table 15: Co-mingled recycling (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Plastic bottles | 18.2 | 13.6 | 9.5 | 15.8 | 13.1 | 10.1 | 22.5 | 13.7 | 14.9 |
| Glass bottles and jars | 93.3 | 82.8 | 59.0 | 54.8 | 41.8 | 43.4 | 30.7 | 39.1 | 58.5 |
| Tins, cans & foil | 13.3 | 11.6 | 10.0 | 16.2 | 9.5 | 7.9 | 11.8 | 11.1 | 11.7 |
| Paper & card recyclables | 0.2 | 0.4 | 0.2 | 0.3 | 0.5 | 0.2 | 0.6 | 0.6 | 0.4 |
| Food & garden waste | 2.5 | 2.7 | 3.6 | 4.8 | 4.7 | 0.4 | 3.0 | 7.0 | 3.4 |
| Residual waste | 20.8 | 16.2 | 20.4 | 22.4 | 23.6 | 11.4 | 31.7 | 33.0 | 21.8 |
| Total recyclable | 124.8 | 108.0 | 78.6 | 86.8 | 64.5 | 61.4 | 65.0 | 64.0 | 85.2 |
| Total contamination | 23.5 | 19.3 | 24.2 | 27.4 | 28.8 | 12.0 | 35.4 | 40.6 | 25.5 |

**Figure 19: Co-mingled recycling (kg/hh/yr)**

Figure 20 summarises the average composition of material disposed of in the co-mingled recycling. Glass bottles and jars form 53% of the collected co-mingled recycling resulting in an annual collection of 58.5kg/hh/yr. Plastic bottles form 14% of bin contents resulting in 14.9kg/hh/yr being recycled. Tins, cans and foils form 11% of bin contents resulting in 11.7kg/hh/yr being recycled.

An average of 23.1% or 25.5kg/hh/yr of the co-mingled recycling bin contents are due to items not acceptable to the collection and therefore deemed to be contamination.

**Figure 20: Materials in co-mingled recycling bins (kg/hh/yr).**

Recycling contamination

This section looks to breakdown the amounts and concentrations of various contaminants being placed into the co-mingled recycling across Bury. Some forms of contamination may be due to residents’ lack of knowledge in relation to the recycling scheme. For example, a householder may believe plastic tubs, pots and trays are acceptable forms of plastic. Other contamination will be formed from waste that is totally unrelated to the materials collected (i.e. disposable nappies, wood or food waste).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |
| **Co-mingled recycling** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Plastic tubs, pots & trays | 2.5% | 2.1% | 2.2% | 2.8% | 4.9% | 5.1% | 4.1% | 3.5% | 3.1% |
| Other non-recyclable plastics | 1.8% | 2.3% | 2.7% | 3.6% | 3.6% | 2.7% | 4.1% | 4.3% | 3.0% |
| Non-recyclable glass | 1.1% | 0.8% | 2.2% | 1.5% | 1.8% | 0.8% | 2.1% | 2.1% | 1.4% |
| Non-recyclable metals | 0.4% | 1.8% | 1.0% | 1.9% | 1.0% | 1.1% | 1.3% | 2.1% | 1.3% |
| Paper & card recyclables | 0.1% | 0.3% | 0.2% | 0.2% | 0.5% | 0.3% | 0.6% | 0.6% | 0.3% |
| Food waste | 1.7% | 2.1% | 3.5% | 4.2% | 5.0% | 0.6% | 3.0% | 6.5% | 3.0% |
| Contained liquids | 5.0% | 2.9% | 6.6% | 5.5% | 4.3% | 3.9% | 4.9% | 4.9% | 4.6% |
| Other residual waste | 3.2% | 2.8% | 5.1% | 4.3% | 9.6% | 2.0% | 15.1% | 14.7% | 6.3% |
| Total contamination | 15.9% | 15.2% | 23.5% | 24.0% | 30.9% | 16.3% | 35.2% | 38.8% | 23.1% |

**Table 16: Contamination in co-mingled recycling bins (%)**

**Table 17: Contamination in co-mingled recycling bins (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Co-mingled recycling** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Plastic tubs, pots & trays | 3.7 | 2.7 | 2.3 | 3.3 | 4.6 | 3.7 | 4.1 | 3.6 | 3.5 |
| Other non-recyclable plastics | 2.7 | 3.0 | 2.8 | 4.1 | 3.4 | 1.9 | 4.1 | 4.5 | 3.3 |
| Non-recyclable glass | 1.7 | 1.0 | 2.3 | 1.7 | 1.7 | 0.6 | 2.1 | 2.2 | 1.6 |
| Non-recyclable metals | 0.6 | 2.3 | 1.1 | 2.2 | 0.9 | 0.8 | 1.4 | 2.2 | 1.5 |
| Paper & card recyclables | 0.2 | 0.4 | 0.2 | 0.3 | 0.5 | 0.2 | 0.6 | 0.6 | 0.4 |
| Food waste | 2.5 | 2.7 | 3.6 | 4.8 | 4.7 | 0.4 | 3.0 | 6.8 | 3.3 |
| Contained liquids | 7.4 | 3.7 | 6.8 | 6.2 | 4.0 | 2.9 | 4.9 | 5.1 | 5.1 |
| Other residual waste | 4.7 | 3.5 | 5.2 | 4.9 | 8.9 | 1.5 | 15.2 | 15.4 | 6.9 |
| Total contamination | 23.5 | 19.3 | 24.2 | 27.4 | 28.8 | 12.0 | 35.4 | 40.6 | 25.5 |

On average 23.1% or 25.5kg/hh/yr of co-mingled recycling collected throughout Bury was deemed to be contamination. Acorn 1C (mature money) recycling was the least contaminated at 15.2%. In comparison over a 38% of Acorn 5Q (difficult circumstances) recycling was due to contamination; this equated to 40.6kg/hh/yr.

Around 27% (6.3% of recycling) of the contamination was due to general mixed residual waste (including materials such as ceramics, WEEE and bagged waste). Non-recyclable plastics made up 6.1% of the recycling or 26% of the contamination. Just over half of this was due to tubs, pots and trays which formed 3.1% of the collected recycling. The remainder was due to plastic film and mixed dense plastics. Contained liquids (mainly inside plastic bottles) made up 20% of the contamination and formed almost 5% of the collected recycling. Food waste made up 13% of the contamination present with 6% being non-recyclable glass and another 6% non-recyclable metals. Just 0.3% of the collected co-mingled recycling (1% of contamination) was due to recyclable paper and card.

Co-mingled recyclables within residual bins

Figures show that an average of 38.8% (88kg/hh/yr) of the residual waste collected throughout Bury could have been recycled at the kerbside. Recyclable plastics, metals and glass account for 5.5% (12.5kg/hh/yr) of the residual waste. Therefore, it can be said that 14% of the recyclable content of the residual waste is due to co-mingled recyclables.

The residual waste from Acorn 3G (successful suburbs) contained around 7.6kg/hh/yr of co-mingled recyclables or 4% of the total. Acorn 1C (mature money) households disposed of over 18kg/hh/yr of recyclable plastic, metal and glass in their residual bins where each accounted for almost 10% of the total.

**Table 18: Co-mingled recyclables placed in residual bins (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Plastic bottles (KG/HH/YR) | 2.3 | 2.5 | 2.0 | 2.4 | 4.0 | 1.9 | 3.8 | 3.5 | 2.7 |
| Glass bottles & jars (KG/HH/YR) | 5.9 | 11.7 | 1.6 | 3.7 | 4.6 | 1.8 | 3.9 | 6.7 | 5.4 |
| Tins, cans & aerosols (KG/HH/YR) | 4.5 | 4.3 | 4.0 | 3.2 | 4.0 | 3.9 | 5.3 | 6.4 | 4.4 |
| Total co-mingled recyclables (KG/HH/YR) | 12.8 | 18.5 | 7.6 | 9.3 | 12.6 | 7.7 | 13.0 | 16.6 | 12.5 |
| Total co-mingled recyclables  (% of residual) | 5.1% | 9.8% | 4.1% | 3.7% | 4.9% | 4.1% | 5.3% | 6.2% | 5.5% |

Capture rates for co-mingled (mixed) recycling

Bury households are disposing of around 98kg/hh/yr of recyclable plastic bottles, tins, cans, aerosols, foil and glass bottles and jars at the kerbside. Of these, 86.8% or 85.2kg/hh/yr are correctly captured in the co-mingled recycling bins. Acorn 4L (modest means) households disposed of the smallest amount of co-mingled recyclables at 69.6kg/hh/yr with Acorn 1B (executive wealth) disposing of as much as 137.8kg/hh/yr.

Acorn 5Q (difficult circumstances) and households were the only ones to capture less than 80% of the available co-mingled recyclables. Acorn 1B (executive wealth) and 3G (successful suburbs) households managed to capture over 90%.

**Table 19: Distribution of co-mingled recyclables in kerbside containers (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Co-mingled recyclables** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Co-mingled recyclables in residual bins (KG/HH/YR) | 12.8 | 18.5 | 7.6 | 9.3 | 12.6 | 7.7 | 13.0 | 16.6 | 12.5 |
| Co-mingled recyclables in co-mingled bins (KG/HH/YR) | 124.8 | 108.0 | 78.6 | 86.8 | 64.5 | 61.4 | 65.0 | 64.0 | 85.2 |
| Co-mingled recyclables in pulpable recycling bins (KG/HH/YR) | 0.2 | 0.2 | 0.2 | 0.1 | 0.3 | 0.5 | 0.4 | 0.6 | 0.3 |
| Co-mingled recyclables in organics bins (KG/HH/YR) | 0.0 | 0.0 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 |
| Total co-mingled recyclables disposed of (KG/HH/YR) | 137.8 | 126.7 | 86.4 | 96.5 | 77.5 | 69.6 | 78.4 | 81.2 | 98.0 |
| % Capture of all co-mingled recyclables | 90.5% | 85.2% | 90.9% | 89.9% | 83.2% | 88.2% | 82.9% | 78.8% | 86.8% |

**Figure 21: Distribution of co-mingled recyclables in kerbside containers (kg/hh/yr) by Acorn group**

Plastic bottles

In all sample areas, the majority of all recyclable plastic bottles are being correctly diverted. There is, however, around 2.8kg/hh/yr of potentially recyclable bottles not disposed of in recycling bins. Acorn 1B residents (executive wealth) captured the highest proportion of their recyclable plastic bottles with 88.1% correctly being recycled. Acorn 3J (starting out) were seen to capture the smallest proportion (76%) of plastic bottles. Across Bury it is estimated that 17.8kg/hh/yr of recyclable plastic bottles are disposed of at the kerbside with around 84.0% or 14.9kg/hh/yr being correctly recycled.

Plastic tubs, pots and trays are currently not part of the recycling collections available in Bury. Despite this over a quarter (25.5%) of all the plastic tubs, pots and trays disposed of at the kerbside are placed into the co-mingled recycling bins. In all sample areas over a fifth of tubs, pots and trays are recycled peaking at 35% for the Acorn 5Q sample.

**Table 20: Distribution of recyclable plastic bottles in kerbside containers (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Plastic bottles** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Plastic bottles disposed of (KG/HH/YR) | 20.7 | 16.1 | 11.6 | 18.2 | 17.3 | 12.4 | 26.4 | 17.3 | 17.8 |
| Plastic bottles recycled (KG/HH/YR) | 18.2 | 13.6 | 9.5 | 15.8 | 13.1 | 10.1 | 22.5 | 13.7 | 14.9 |
| % Capture of plastic bottles | 88.1% | 84.0% | 82.4% | 87.0% | 76.0% | 81.3% | 85.3% | 79.3% | 84.0% |

Glass bottles and jars

Across Bury it is estimated that 64kg/hh/yr of recyclable bottles and jars are disposed of at the kerbside with around 91.4% or 58.5kg/hh/yr being correctly recycled.

Around 5.5kg/hh/yr of potentially recyclable glass is not disposed of in recycling bins. Acorn 3G (successful suburbs) residents captured the highest proportion of their recyclable glass bottles and jars with 97.2% correctly being recycled. Acorn 1B generated the most recyclable glass at 99.2kg/hh/yr and also have a very high capture rate of 94%. All samples were seen to capture over 84% of the glass bottles and jars they disposed of.

Table 21 shows the distribution of recyclable bottles and jars throughout the residual and recycling waste by Acorn group and overall.

**Table 21: Distribution of recyclable glass in kerbside containers (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Glass bottles & jars** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Glass bottles & jars disposed of (KG/HH/YR) | 99.2 | 94.6 | 60.7 | 58.5 | 46.6 | 45.2 | 34.7 | 46.2 | 64.0 |
| Glass bottles & jars recycled (KG/HH/YR) | 93.3 | 82.8 | 59.0 | 54.8 | 41.8 | 43.4 | 30.7 | 39.1 | 58.5 |
| % Capture of glass bottles & jars (KG/HH/YR) | 94.0% | 87.5% | 97.2% | 93.6% | 89.7% | 95.9% | 88.5% | 84.7% | 91.4% |

Metals

Across Bury it is estimated that 16.3kg/hh/yr of recyclable metals compatible are disposed of at the kerbside with around 72% or 11.7kg/hh/yr being correctly recycled. Acorn 3H (steady neighbourhoods) residents generated the most at 19.8kg/hh/yr and also captured the highest proportion of their recyclable tins, cans and foils at 81.9%. Acorn 4L (modest means) generated the least recyclable metal at 12kg/hh/yr, whilst Acorn 5Q (difficult circumstances) captured the lowest proportion of their recyclable metals at 62.9%. All samples were seen to capture the majority of the recyclable metals they disposed of. Around 4.6kg/hh/yr of potentially recyclable metal is not disposed of in recycling bins.

**Table 22: Distribution of recyclable metal in kerbside containers (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tins, cans, aerosols & foil** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Recyclable metals generated (KG/HH/YR) | 17.9 | 16.0 | 14.1 | 19.8 | 13.6 | 12.0 | 17.3 | 17.7 | 16.3 |
| Recyclable metals recycled (KG/HH/YR) | 13.3 | 11.6 | 10.0 | 16.2 | 9.5 | 7.9 | 11.8 | 11.1 | 11.7 |
| % Capture of recyclable metals (KG/HH/YR) | 74.2% | 72.8% | 70.9% | 81.9% | 70.3% | 66.1% | 68.2% | 62.9% | 71.9% |

Diversion via co-mingled recycling collections

The co-mingled recycling bin service is responsible for diverting 13.4% of all the kerbside waste presented. This proportion excludes all of the contamination materials that are present within these bins. Acorn 1C (mature money) households are estimated to be diverting 15.6% of their kerbside waste via co-mingled recycling bins. The rate for households in the Acorn 3H (steady neighbourhoods) and 3J (starting out) areas is 10.6%.

**Table 23: Diversion via co-mingled recycling bins (%)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Diversion rates** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Co-mingled recycling bin | 15.5% | 15.6% | 14.1% | 10.6% | 10.6% | 12.3% | 15.5% | 11.4% | 13.4% |

Results – Organic recycling (Food and garden)

Set out rates and waste generation levels

Households throughout Bury have access to a fortnightly collection of organic recycling consisting of food waste, garden vegetation and organic pet bedding. Average figures suggested that 50.4% of households presented organic recycling bins for collection. Ranges seen were just 18% for Acorn 5O (young hardship) up to 74.4% for Acorn 1B (executive wealth). It was seen that an average of 223.3kg/hh/yr of organic recycling was being generated.

Just 26.4kg/hh/yr of this recycling was generated by Acorn 5O (young hardship) households compared with Acorn 3H (steady neighbourhoods) households generating 368.5kg/hh/yr. Solely considering presented bins; the average amount of organic recycling generated is 442.8kg/hh/yr.

**Table 24: Organic recycling**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample** | **% set out rate** | **Overall KG/HH/YR** | **KG/HH/YR per presented bin** |
| 1B | 74.4% | 309.6 | 416.0 |
| 1C | 68.4% | 298.9 | 437.1 |
| 3G | 46.4% | 227.8 | 491.1 |
| 3H | 57.4% | 368.5 | 641.6 |
| 3J | 43.9% | 171.3 | 390.0 |
| 4L | 32.9% | 160.4 | 487.4 |
| 5O | 18.0% | 26.4 | 146.7 |
| 5Q | 48.4% | 137.2 | 283.4 |
| Average | 50.4% | 223.3 | 442.8 |

**Figure 22: Set out rates for organic recycling (%)**

**Figure 23: Kg/hh/yr for organic recycling**

Compositional analysis of organic recycling

This section looks at average amounts and composition of the organic recycling presented by households sampled throughout Bury. Results can again be expressed in terms of percentage concentration and kg/hh/yr for individual samples surveyed. Table 25 and Figure 24 show recycling data in terms of percentage composition with Table 26 and Figure 25 showing generation rates for major materials in kg/hh/yr across all households in each sample area.

As residual waste will contain a proportion that is classified as recyclable; then recycling waste will contain a faction that is deemed to contamination. That is to say, that it is not compatible with the materials currently acceptable to the recycling container it is placed into.

On average around 69.2% (154.6kg/hh/yr) of organic recycling is due to garden vegetation with 21% (46.9kg/hh/yr) being food waste. Therefore 90.6% (202.4kg/hh/yr) of organic recycling bin content consists of the correct materials. Around 6.2% (13.8kg/hh/yr) of material in the organic recycling bins is soil and turf while 3.2% is other waste materials which formed 7.2kg/hh/yr of the recycling collected.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| All food waste | 24.0% | 15.3% | 9.4% | 18.4% | 52.1% | 22.7% | 53.6% | 15.9% | 21.0% |
| Garden vegetation | 67.6% | 81.7% | 71.8% | 73.1% | 42.1% | 65.2% | 42.6% | 49.9% | 69.2% |
| Pet bedding | 0.0% | 0.0% | 2.4% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.2% |
| Compostable liners | 0.0% | 0.0% | 0.3% | 0.4% | 0.3% | 0.1% | 0.0% | 0.4% | 0.2% |
| Soil & turf | 7.5% | 1.6% | 13.0% | 5.3% | 0.0% | 10.5% | 0.0% | 13.7% | 6.2% |
| All other waste | 0.9% | 1.4% | 3.2% | 2.9% | 5.4% | 1.5% | 3.7% | 20.2% | 3.2% |
| Total recyclable | 91.6% | 97.0% | 83.8% | 91.9% | 94.6% | 88.0% | 96.3% | 66.2% | 90.6% |
| Total contamination | 8.4% | 3.0% | 16.2% | 8.1% | 5.4% | 12.0% | 3.7% | 33.8% | 9.4% |

**Table 25: Organic recycling (% composition)**

**Figure 24: Organic recycling (% composition)**

**Table 26: Organic recycling (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Organic recycling bins** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| All food waste | 74.3 | 45.6 | 21.4 | 67.7 | 89.2 | 36.4 | 14.2 | 21.8 | 46.9 |
| Garden vegetation | 209.2 | 244.4 | 163.5 | 269.3 | 72.2 | 104.5 | 11.2 | 68.5 | 154.6 |
| Pet bedding | 0.0 | 0.0 | 5.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 |
| Compostable liners | 0.0 | 0.0 | 0.6 | 1.4 | 0.6 | 0.2 | 0.0 | 0.5 | 0.4 |
| Soil & turf | 23.2 | 4.9 | 29.5 | 19.4 | 0.0 | 16.8 | 0.0 | 18.8 | 13.8 |
| All other waste | 2.9 | 4.1 | 7.3 | 10.6 | 9.3 | 2.5 | 1.0 | 27.7 | 7.2 |
| Total recyclable | 283.5 | 290.0 | 191.0 | 338.5 | 162.0 | 141.1 | 25.4 | 90.8 | 202.4 |
| Total contamination | 26.1 | 9.0 | 36.8 | 30.0 | 9.3 | 19.3 | 1.0 | 46.4 | 20.9 |

**Figure 25: Organic recycling (kg/hh/yr)**

Figure 26 below summarises the average composition of material disposed of in the organic recycling. Garden vegetation formed 69% of the collected organic recycling resulting in an annual collection of 154.6kg/hh/yr. Food formed 21% of bin contents resulting in 46.9kg/hh/yr being recycled.

An average of 9.4% or 20.9kg/hh/yr of recycling bin contents are due to items not acceptable to the collection and therefore deemed to be contamination.

**Figure 26: Materials in organic recycling bins.**

***\*Levels of garden waste fluctuate greatly depending on the season. Figures represent an annual average of data obtained during spring/summer and autumn/winter seasons.***

Food content of the organic recycling

In the organic recycling just 21% of material is due to food waste. Of this food waste, 62% is avoidable which is lower than the proportion seen for food disposed of in the residual waste. Almost a third of the avoidable food waste in the organics recycling is still contained within its packaging.

Acorn 1C (mature money) had the lowest proportion of avoidable food waste (43.1%). In comparison 76.3% of food recycled in Acorn 3G (successful suburbs) was avoidable. For the majority of samples, avoidable food waste made up the greatest proportion.

On average 7.7% of all recycled avoidable food waste was still packaged. This represented 4.8% of all recycled food. Acorn 3H (steady neighbourhoods) recycled over 14% of their food waste in its packaging with Acorn 5Q (difficult circumstances) being almost 16% packaged.

**Table 27: Food waste placed into organic recycling bins (kg/hh/yr).**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Avoidable food waste - unused fully packaged | 0.3 | 0.0 | 0.0 | 2.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.4 |
| Avoidable food waste - part used in packaging | 1.1 | 0.4 | 0.0 | 7.6 | 1.0 | 0.7 | 0.3 | 3.4 | 1.9 |
| Avoidable food waste loose | 45.1 | 19.2 | 16.4 | 37.5 | 58.4 | 22.2 | 7.7 | 13.1 | 27.0 |
| Potentially avoidable food waste | 5.3 | 4.5 | 0.7 | 5.6 | 3.3 | 3.6 | 1.1 | 1.1 | 3.4 |
| Unavoidable food wase | 22.5 | 21.5 | 4.4 | 15.0 | 26.0 | 10.0 | 5.2 | 4.2 | 14.2 |
| Total food waste | 74.3 | 45.6 | 21.4 | 67.7 | 89.2 | 36.4 | 14.2 | 21.8 | 46.9 |
| % Avoidable | 62.6% | 43.1% | 76.3% | 69.6% | 67.2% | 62.7% | 56.0% | 75.6% | 62.4% |
| % Possibly avoidable | 7.1% | 9.8% | 3.2% | 8.2% | 3.7% | 9.9% | 7.5% | 5.3% | 7.3% |
| % Of avoidable packaged | 3.1% | 2.4% | 0.0% | 20.4% | 2.6% | 2.9% | 3.3% | 20.6% | 7.7% |

Organic recycling contamination

On average 20.9kg/hh/yr or 9.4% of organic recycling consists of contamination. This section looks to breakdown the amounts and concentrations of various contaminants present.

Some forms of contamination may be due to residents’ lack of knowledge in relation to the recycling scheme. For example, a householder may believe soil and turf, or wood are acceptable. Other contamination will be formed from waste that is totally unrelated to the materials collected (i.e. plastics).

**Table 28: Contamination in organic recycling bins (%)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Soil & turf | 7.5% | 1.6% | 13.0% | 5.3% | 0.0% | 10.5% | 0.0% | 13.7% | 6.2% |
| Scrap wood | 0.5% | 0.9% | 3.0% | 0.2% | 0.1% | 0.1% | 0.0% | 0.2% | 0.7% |
| Other residual waste | 0.5% | 0.5% | 0.2% | 2.6% | 5.3% | 1.5% | 3.7% | 19.9% | 2.6% |
| Total contamination | 8.4% | 3.0% | 16.2% | 8.1% | 5.4% | 12.0% | 3.7% | 33.8% | 9.4% |

**Table 29: Contamination in organic recycling bins (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Soil & turf | 23.2 | 4.9 | 29.5 | 19.4 | 0.0 | 16.8 | 0.0 | 18.8 | 13.8 |
| Scrap wood | 1.4 | 2.7 | 6.8 | 0.9 | 0.2 | 0.1 | 0.0 | 0.3 | 1.5 |
| All other contamination | 1.5 | 1.4 | 0.5 | 9.7 | 9.1 | 2.4 | 1.0 | 27.4 | 5.7 |
| Total contamination | 26.1 | 9.0 | 36.8 | 30.0 | 9.3 | 19.3 | 1.0 | 46.4 | 20.9 |

Just two of the eight samples of organic recycling were less than 5% contamination. In the other six samples contamination levels of 5.4% - 33.8% were observed. Generally, levels of contamination were related to the amount of soil and turf that was present. On average soil and turf formed 6% of the organic recycling or 66% of the contamination present. Scrap wood made up 1% of the collected recycling and was responsible for 7% of the contamination. Other contamination made up 2.6% of the organic recycling and was mainly due to bagged household waste.

Capture rates for organic recyclables

This section looks in more detail at the individual materials placed out for organic recycling collections and highlights the effectiveness with which recycling collections throughout Bury are capturing these items. Capture rates determine how much of a material that should be recycled actually is being recycled. Looking at the relationship between the residual and recycling waste streams presented will additionally give indications as to the overall diversion being achieved via this service.

Around 272kg/hh/yr of recyclable organic material is generated by households across Bury. Of this, 74.5% or 202.4kg/hh/yr is captured by the organics recycling bins. Acorn 3H (steady neighbourhoods) households disposed of by far the most organic material at 414.9kg/hh/yr. This compares with levels of just 106.7kg/hh/yr for Acorn 5O (young hardship) households. As well as disposing of the least amount of organic waste, these Acorn 5O households captured by far the lowest proportion at 23.8%. Acorn 1C (mature money) households managed to capture almost 86%.

**Table 30: Distribution of organic recyclables in kerbside containers (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Organic recyclables** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Organic recyclables in residual bins (KG/HH/YR) | 58.3 | 45.4 | 52.4 | 70.2 | 84.4 | 63.8 | 76.9 | 77.6 | 64.4 |
| Organic recyclables in organics bins (KG/HH/YR) | 283.5 | 290.0 | 191.0 | 338.5 | 162.0 | 141.1 | 25.4 | 90.8 | 202.4 |
| Co-mingled recyclables in pulpable recycling bins (KG/HH/YR) | 0.9 | 0.4 | 0.6 | 1.5 | 1.8 | 2.4 | 1.4 | 1.9 | 1.3 |
| Co-mingled recyclables in co-mingled bins (KG/HH/YR) | 2.5 | 2.7 | 3.6 | 4.8 | 4.7 | 0.4 | 3.0 | 7.0 | 3.4 |
| Total organic recyclables disposed of (KG/HH/YR) | 345.3 | 338.4 | 247.5 | 414.9 | 252.8 | 207.7 | 106.7 | 177.2 | 271.5 |
| % Capture of all organic recyclables | 82.1% | 85.7% | 77.2% | 81.6% | 64.1% | 67.9% | 23.8% | 51.2% | 74.5% |

Levels of organic waste tend to fluctuate over the course of a year largely due to the levels of garden waste being disposed of. During a spring / summer survey, levels of garden waste will be higher than one performed during winter months. Figures in this report provide the best annual estimates as they represent an average of the results from both seasons. Variations in the levels of food waste being disposed of are less pronounced, however it is generally the case that households recycle garden waste far more effectively than food waste. Residents will also have the option to remove garden waste and fruit / vegetable matter from their kerbside waste by using home composters.

Food waste

Across Bury it is estimated that 110.4kg/hh/yr of recyclable food is disposed of at the kerbside with around 42.5% or 46.9kg/hh/yr being correctly recycled (Table 31). A total of 63.6kg/hh/yr of potentially recyclable food is not disposed of in organic recycling bins. Acorn 1B (executive wealth) residents captured the highest percentage of the food waste they disposed of with 54.6% correctly being recycled compared to just 16.1% captured by Acorn 5O (young hardship) residents. Acorn 3J (starting out) disposed of the most recyclable food waste at 179.9kg/hh/yr, this compares to 74.3kg/hh/yr disposed of by Acorn 3G (successful suburbs).

**Table 31: Distribution of recyclable food waste in kerbside containers (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Food waste** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Recyclable food disposed of (KG/HH/YR) | 136.1 | 85.6 | 74.3 | 127.2 | 179.9 | 101.5 | 87.9 | 106.7 | 110.4 |
| Recyclable food recycled (KG/HH/YR) | 74.3 | 45.6 | 21.4 | 67.7 | 89.2 | 36.4 | 14.2 | 21.8 | 46.9 |
| % Capture of recyclable food (KG/HH/YR) | 54.6% | 53.3% | 28.8% | 53.2% | 49.6% | 35.9% | 16.1% | 20.4% | 42.5% |

Figure 27 shows the distribution of recyclable food throughout the residual and recycling waste by Acorn group and overall.

**Figure 27: Distribution of food waste in kerbside containers (kg/hh/yr) by Acorn group and overall**

Garden waste

Almost all samples disposed of their garden waste correctly in the organics recycling. Out of all eight samples, only Acorn 5O (young hardship) captured less than 98%. On average Bury households disposed of 156.4kg/hh/yr of garden waste with almost 99% correctly recycled. There were large differences in the amount generated, Acorn 5O households (young hardship) generated just 14.9kg/hh/yr of garden vegetation, whereas this amount was 271.3kg/hh/yr in Acorn 3H (steady neighbourhoods).

**Table 32: Distribution of recyclable garden waste in kerbside containers (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Garden waste** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Recyclable garden waste disposed of (KG/HH/YR) | 231.3 | 345.0 | 151.9 | 307.9 | 135.0 | 136.6 | 23.1 | 77.9 | 191.8 |
| Recyclable garden waste recycled (KG/HH/YR) | 231.3 | 341.0 | 145.4 | 304.0 | 135.0 | 136.5 | 17.2 | 77.6 | 189.2 |
| % Capture of recyclable garden waste (KG/HH/YR) | 100.0% | 98.8% | 95.7% | 98.7% | 100.0% | 99.9% | 74.5% | 99.6% | 98.6% |

**Figure 28: Distribution of recyclable garden waste in kerbside containers (kg/hh/yr)**

Diversion via organic recycling collections

The organic recycling bin service is responsible for diverting around 32% of all the kerbside waste presented. This proportion excludes all of the contamination materials that are present within these bins. Acorn 1C (mature money) and 3H (steady neighbourhoods) both divert over 41% of their kerbside waste via their organic recycling bins. In contrast, just 6% of kerbside waste in Acorn 5O (young hardship) areas is diverted via organic recycling bins.

**Table 33: Diversion via organic recycling bins (%)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Diversion rates** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Organic recycling bin | 35.3% | 41.9% | 34.2% | 41.4% | 26.6% | 28.3% | 6.0% | 16.2% | 31.9% |

Results – Total amount of kerbside waste and recycling generated

This section looks at the total amount of waste and recycling that is generated by each of the samples and as an average for Bury. Diversion rates show the percentage of total generated waste produced from an area that is being ‘diverted’ via the available recycling stream(s).

On average Bury households are disposing of 633.9kg/hh/yr of total waste and recycling at the kerbside. Acorn 3H (steady neighbourhoods) households created the highest levels of total waste at 818.6kg/hh/yr compared with 420.3kg/hh/yr for Acorn 5O (young hardship).

**Table 34: Total amount of kerbside waste and recycling (kg/hh/yr)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kerbside waste stream** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Residual | 250.5 | 188.9 | 186.6 | 250.7 | 256.1 | 185.7 | 243.6 | 267.3 | 226.7 |
| Paper & card | 95.1 | 77.5 | 41.7 | 85.2 | 89.4 | 79.6 | 49.9 | 51.3 | 73.2 |
| Co-mingled | 148.3 | 127.3 | 102.7 | 114.2 | 93.2 | 73.4 | 100.4 | 104.6 | 110.7 |
| Organics | 309.6 | 298.9 | 227.8 | 368.5 | 171.3 | 160.4 | 26.4 | 137.2 | 223.3 |
| Total kerbside | 803.6 | 692.6 | 558.9 | 818.6 | 610.1 | 499.0 | 420.3 | 560.4 | 633.9 |

**Figure 29: Total amount of kerbside waste and recycling (kg/hh/yr)**

On average it has been seen that Bury households generate around 633.9kg/hh/yr of kerbside waste. Of this a total of 55% or 348.5kg/hh/yr is diverted via the available recycling containers. Organics recycling bins are diverting the majority of kerbside waste at 32% (202.2kg/hh/yr) compared with 13% (84.9kg/hh/yr) for co-mingled recycling bins and 10% (60.9kg/hh/yr) for pulpable recycling bins.

Different household samples varied as to how effectively they diverted their kerbside waste. Six of the eight samples diverted over half of their kerbside waste through the supplied recycling bins. In contrast Acorn 5Q (difficult circumstances) and 5O (young hardship) households were only diverting around a third of their kerbside waste, and Acorn 3J (starting out) diverting just below half.

**Figure 30: Total diversion rates for Bury samples (%)**

Maximum achievable diversion

GMCA has an ambition to reach a 60% recycling rate across Greater Manchester by 2020. The current estimated diversion rate for Bury from this survey is 55%. Table 36 illustrates the maximum amount of diversion that could be obtained if all of the recyclable material that is not placed into the correct recycling container is captured.

Figures from this survey show that Bury households are diverting 348.5kg/hh/yr of their 633.9kg/hh/yr of total kerbside waste. This is a diversion rate of 55%, which is 5% below the target of 60%. In order to achieve 60% diversion an additional 31.8kg/hh/yr of recyclable material would need to be diverted bringing the total to 380.3kg/hh/yr (this assumes no changes in the amount of overall kerbside waste generated).

Were all recyclables placed into the correct recycling container then the maximum achievable diversion would be 69.7% across Bury. Across the samples the maximum diversion ranged between 55.4% for Acorn 5Q (difficult circumstances) and 78.5% for Acorn 1C (mature money).

Overall a total of 93.6kg/hh/yr of recyclable material is not being placed into the correct recycling bin. By far the greatest potential for increasing diversion lies with food waste. This food waste forms 68% (63.6kg/hh/yr) of the material that is not recycled. Recyclable paper and card account for 12% (11.6kg/hh/yr) of the unrecycled items with co-mingled plastic, metal and glass accounting for 14% (12.9kg/hh/yr)

**Table 35: Recyclables currently diverted**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Current diversion** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Recyclables currently diverted (KG/HH/YR) | 485.8 | 465.6 | 305.1 | 500.0 | 300.7 | 267.7 | 132.4 | 190.2 | 348.5 |
| Current diversion | 60.5% | 67.2% | 54.6% | 61.1% | 49.3% | 53.6% | 31.5% | 33.9% | 55.0% |

**Table 36: Maximum potential diversion by capturing all recyclables**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Diversion potential**  **KG/HH/YR and %** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Unrecycled paper | 6.1 | 6.1 | 3.8 | 5.8 | 6.3 | 2.4 | 7.0 | 8.9 | 5.8 |
| 0.8% | 0.9% | 0.7% | 0.7% | 1.0% | 0.5% | 1.7% | 1.6% | 0.9% |
| Unrecycled card & cardboard | 4.8 | 5.1 | 6.5 | 4.4 | 7.7 | 3.8 | 8.5 | 7.8 | 5.8 |
| 0.6% | 0.7% | 1.2% | 0.5% | 1.3% | 0.8% | 2.0% | 1.4% | 0.9% |
| Unrecycled plastic bottles | 2.5 | 2.6 | 2.0 | 2.4 | 4.1 | 2.3 | 3.9 | 3.6 | 2.8 |
| 0.3% | 0.4% | 0.4% | 0.3% | 0.7% | 0.5% | 0.9% | 0.6% | 0.4% |
| Unrecycled glass | 6.0 | 11.8 | 1.7 | 3.8 | 4.8 | 1.8 | 4.0 | 7.1 | 5.5 |
| 0.7% | 1.7% | 0.3% | 0.5% | 0.8% | 0.4% | 0.9% | 1.3% | 0.9% |
| Unrecycled metals | 4.6 | 4.3 | 4.1 | 3.6 | 4.0 | 4.1 | 5.5 | 6.6 | 4.6 |
| 0.6% | 0.6% | 0.7% | 0.4% | 0.7% | 0.8% | 1.3% | 1.2% | 0.7% |
| Unrecycled food | 61.7 | 40.0 | 52.9 | 59.4 | 90.7 | 65.1 | 73.8 | 85.0 | 63.6 |
| 7.7% | 5.8% | 9.5% | 7.3% | 14.9% | 13.1% | 17.6% | 15.2% | 10.0% |
| Unrecycled garden waste | 0.0 | 2.5 | 3.6 | 1.9 | 0.1 | 1.5 | 3.6 | 0.3 | 1.8 |
| 0.0% | 0.4% | 0.6% | 0.2% | 0.0% | 0.3% | 0.9% | 0.1% | 0.3% |
| Unrecycled pet bedding | 0.0 | 6.0 | 0.0 | 15.0 | 0.0 | 0.0 | 3.9 | 1.2 | 3.8 |
| 0.0% | 0.9% | 0.0% | 1.8% | 0.0% | 0.0% | 0.9% | 0.2% | 0.6% |
| Total unrecycled | 85.6 | 78.4 | 74.7 | 96.3 | 117.9 | 81.1 | 110.1 | 120.3 | 93.6 |
| 10.7% | 11.3% | 13.4% | 11.8% | 19.3% | 16.2% | 26.2% | 21.5% | 14.8% |
| Recyclables potentially divertible | 571.4 | 543.9 | 379.7 | 596.3 | 418.6 | 348.7 | 242.6 | 310.6 | 442.1 |
| Potential maximum diversion | 71.1% | 78.5% | 67.9% | 72.9% | 68.6% | 69.9% | 57.7% | 55.4% | 69.7% |

**Figure 31: Recyclable material available for diversion (kg/hh/yr)**

**Figure 32: Maximum diversion potential (%)**

Potential for increasing pulpables recycling

Were recyclable pulpables (paper and card) targeted then potentially an additional 11.6kg/hh/yr or 1.8% of waste could be diverted. This would raise overall diversion to 56.8%. Acorns 5Q (difficult circumstances) and 5O (young hardship ) hold the greatest potential for raising diversion by capturing all of their recyclable paper where each could increase total diversion by 3% and 3.7% respectively.

**Table 37: Targeting pulpables (paper and card) recyclables**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Pulpable recyclables** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| KG/HH/YR available | 10.8 | 11.2 | 10.3 | 10.2 | 14.1 | 6.2 | 15.5 | 16.7 | 11.6 |
| % increase in diversion | 1.3% | 1.6% | 1.8% | 1.2% | 2.3% | 1.2% | 3.7% | 3.0% | 1.8% |
| Achieved diversion | 61.8% | 68.8% | 56.4% | 62.3% | 51.6% | 54.9% | 35.2% | 36.9% | 56.8% |

Potential for increasing co-mingled recycling

Were materials suitable for co-mingled recycling targeted then potentially 12.9kg/hh/yr or 2% of waste could be diverted. This would raise overall diversion to 57%. Acorns 5O (young hardship) and 5Q (difficult circumstances) hold the greatest potential for raising diversion by capturing all of their recyclable paper where each could increase total diversion by over 3%. Expanding the mixed recycling collections to include either Tetrapak cartons and/or plastic pots, tubs and trays would also act to increase the amount recycled. The potential increase in diversion achieved by introducing these materials is shown in Table 43 at the end of this document.

**Table 38: Targeting co-mingled recyclables**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Co-mingled recycling** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| KG/HH/YR available | 13.0 | 18.7 | 7.8 | 9.7 | 13.0 | 8.2 | 13.4 | 17.2 | 12.9 |
| % Increase in diversion | 1.6% | 2.7% | 1.4% | 1.2% | 2.1% | 1.7% | 3.2% | 3.1% | 2.0% |
| Achieved diversion | 62.1% | 69.9% | 56.0% | 62.3% | 51.4% | 55.3% | 34.7% | 37.0% | 57.0% |

The targeting of pulpables (paper and card) as well as co-mingled recycling has the potential to divert an additional 24.5kg/hh/yr of material. This would boost the overall diversion rate by 3.9% up to 58.8%. Three of the eight demographic samples would break the 60% target.

Potential for increasing organics recycling

**Table 39: Targeting organics (food and garden) recycling**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Food & garden recycling** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| KG/HH/YR available | 61.7 | 48.5 | 56.5 | 76.4 | 90.8 | 66.6 | 81.3 | 86.4 | 69.1 |
| % Increase in diversion | 7.7% | 7.0% | 10.1% | 9.3% | 14.9% | 13.4% | 19.3% | 15.4% | 10.9% |
| Achieved diversion | 68.1% | 74.2% | 64.7% | 70.4% | 64.2% | 67.0% | 50.9% | 49.4% | 65.9% |

Were materials suitable for food and garden recycling targeted then potentially 69.1kg/hh/yr or 10.9% of waste could be diverted. This would raise overall diversion to 65.9%, exceeding the required target. Six of the eight demographic samples would surpass the 60% target. Four Acorn samples would show above average potential increases for diversion for the successful capture of their organic recyclables; Acorn 3J (14.9%), Acorn 4L (13.4%), Acorn 5O (19.3%) and Acorn 5Q (15.4%).

Almost all of this diversion potential is in the form of food waste rather than garden waste and biodegradable pet bedding. Table 36 shows that of the 69.1kg/hh/yr of potentially divertible organics, over 92% are due to food waste. If all food waste was diverted, then an additional 10% diversion could be achieved.

An average of 93.6kg/hh/yr or 14.8% of kerbside waste is not being diverted. The maximum achievable diversion is therefore around 69.7%. Of the eight sample areas, only Acorn 5Q (difficult circumstances) and 5O (young hardship) would not hit 60% diversion even if all of their recyclable materials were correctly recycled. All other Acorn samples would exceed the 60% target if all their recyclable materials were correctly diverted.

Acorns 5O (young hardship) (+26.2%), 5Q (difficult circumstances) (+21.5%) would show the greatest increase in diversion by successfully recycling accepted materials at the kerbside

Waste minimisation

Around 160kg/hh/yr of residual bins waste is of a type that cannot be diverted into a kerbside recycling scheme. This includes materials such as textiles, and WEEE that could have been taken to one of the HWRC’s and also disposable nappies that are possible to collect separately from the kerbside.

Textiles

On average, 6.6% or 14.9kg/hh/yr of residual waste consisted of different types of textiles. Over 85% of the weight of items in this category were classified as linen, clothing and shoes. These items account for 5.6% or 12.7kg/hh/yr of residual waste and depending on the condition of these items much of this could potentially be diverted to HWRCs, bring banks or charity shops. Over 10% of Acorn 5Q (difficult circumstances) residual waste and 27.6kg/hh/yr of Acorn 5Q (difficult circumstances) residual waste was due to textiles.

If all of the potentially recyclable textiles were removed from residual bins and diverted to HWRCs or elsewhere then 12.7kg/hh/yr of residual waste reduction would be possible. This in turn would raise diversion by 1.1% to 56.1%.

**Table 40: Textile content of the residual waste**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Total textiles (%) | 7.8% | 7.5% | 7.5% | 3.0% | 8.3% | 4.4% | 5.1% | 10.3% | 6.6% |
| Total textiles (KG/HH/YR) | 19.6 | 14.2 | 13.9 | 7.6 | 21.2 | 8.2 | 12.3 | 27.6 | 14.9 |
| Linen, clothing & shoes (%) | 7.4% | 7.2% | 6.9% | 0.5% | 8.1% | 3.7% | 4.6% | 8.1% | 5.6% |
| Linen, clothing & shoes (KG/HH/YR) | 18.5 | 13.7 | 12.8 | 1.3 | 20.6 | 6.8 | 11.3 | 21.6 | 12.7 |
| % of textiles from linen, clothing & shoes | 94.0% | 96.0% | 92.0% | 17.4% | 97.3% | 82.9% | 91.5% | 78.2% | 85.1% |

Disposable nappies

Disposable nappy levels within the residual waste of households with babies can be extremely high. In this survey, the concentrations of disposable nappies and AHP (absorbent hygiene products) waste ranged between 3.4% (6.5kg/hh/yr) in Acorn 1C (mature money) up to 15.1% (38.6kg/hh/yr) in Acorn 3J (starting out).

Were a separate collection of these products made available or households switched to reusable nappies then this would represent a sizeable reduction in residual waste. As a result, diversion could potentially rise from 55.0% to 57.1%

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Total disposable nappies & AHP (%) | 12.3% | 3.4% | 11.1% | 9.3% | 15.1% | 8.9% | 12.2% | 11.7% | 10.3% |
| Total disposable nappies & AHP (KG/HH/YR) | 30.9 | 6.5 | 20.8 | 23.3 | 38.6 | 16.5 | 29.7 | 31.4 | 23.3 |

**Table 41: Disposable nappy & AHP content of the residual waste**

WEEE

Waste electrical and electronic equipment (WEEE) formed an average of 1.8% or 4.2kg/hh/yr of collected residual waste. These items should not be in residual bins and should be disposed of at recycling centres. Common items include small kitchen appliances, cables, plugs and leads, adaptors, hairdryers, lamps etc. The Acorn 3H (steady neighbourhoods) sample had the highest amount of this type of waste at around 5% (12.3kg/hh/yr) of the total. Removal of these items from the residual waste would have only a small effect on diversion by increasing it from 55.0% to 55.3%

**Table 42: WEEE content of the residual waste**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Total WEEE (%) | 2.2% | 1.5% | 0.5% | 4.9% | 0.4% | 1.1% | 1.4% | 0.7% | 1.8% |
| Total WEEE (KG/HH/YR) | 5.6 | 2.9 | 1.0 | 12.3 | 0.9 | 2.0 | 3.4 | 1.9 | 4.2 |

Were it possible for households to remove the recyclable textile, disposable nappy and WEEE items from their residual waste then this would represent a minimisation of around 40.2kg/hh/yr or 17.7% of the total residual waste. As a result, diversion could increase from 55.0% to 58.7% with no additional changes in the amount of recycling collected.

Tetrapak and plastic tubs, pots, trays (PTT’s)

Tetrapak cartons and plastic tubs, pots and trays (PTT) form around 15.7kg/hh/yr of kerbside waste from Bury households. These items are not currently part of the recycling scheme operated by GMCA. Should they be introduced the effect on diversion would be an increase from 55.0% to 57.5%. It was seen that two thirds of these items were correctly placed into residual bins with around a third incorrectly recycled in kerbside recycling bins. More potential is available for PTT which could increase diversion by 2.1% as opposed to 0.3% for Tetrapaks.

**Table 43: Tetrapak and PTT disposed of at the kerbside**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **1B** | **1C** | **3G** | **3H** | **3J** | **4L** | **5O** | **5Q** | **Average** |
| Total Tetrapak & PTT (%) | 2.8% | 2.0% | 2.1% | 2.0% | 2.9% | 2.7% | 3.4% | 2.2% | 2.5% |
| Total Tetrapak & PTT (KG/HH/YR) | 22.7 | 14.1 | 11.7 | 16.5 | 17.9 | 13.7 | 14.4 | 12.2 | 15.7 |

Were it possible for households to remove the recyclable textile, disposable nappy and WEEE items from their residual waste then this would represent a minimisation of around 40.2kg/hh/yr or 17.7% of the total residual waste. As a result, diversion could increase from 55.0% to 58.7% with no additional changes in the amount of recycling collected. Additionally, diverting Tetrapaks and PTT away from the residual waste and into the recycling scheme could raise this amount further to 61.2%.

Appendix

Annual collected tonnage data for the kerbside waste and recycling collections is shown in table 3. These tonnages can be applied to the percentage composition of hand sorted waste obtained from this survey. Caution needs to be taken when applying these waste proportions to annual tonnages as the composition relates to the waste collected at the time of the survey only – and this may differ seasonally. For example, garden waste volumes will be drastically higher during certain months, therefore applying the percentage by weight figure for this (or any other) single phase survey to Bury annual tonnages will not accurately model what would be expected over a twelve month period.

Tonnage composition – residual waste

|  |  |  |
| --- | --- | --- |
| **Recyclable materials** | **% composition** | **Projected annual tonnage** |
| Recyclable paper | 2.5% | 708 |
| Recyclable card & cardboard | 2.4% | 685 |
| Plastic bottles | 1.2% | 342 |
| Recyclable glass | 2.4% | 678 |
| Recyclable metals | 1.9% | 555 |
| Recyclable food waste | 26.1% | 7,438 |
| Recyclable garden waste | 0.7% | 194 |
| Recyclable pet bedding | 1.7% | 478 |
| Non kerbside recyclable | 61.2% | 17,455 |
| Total | 100.0% | 28,534 |
| **Recyclables by bin** | **% composition** | **Projected annual tonnage** |
| Pulpable recyclables | 4.9% | 1,393 |
| Co-mingled recyclables | 5.5% | 1,575 |
| Organic recyclables | 28.4% | 8,111 |
| Total recyclable | 38.8% | 11,079 |

Tonnage composition – pulpable recycling

|  |  |  |
| --- | --- | --- |
| **Recyclable materials** | **% Composition** | **Projected annual tonnage** |
| Recyclable paper | 40.1% | 3,137 |
| Recyclable card & cardboard | 43.3% | 3,385 |
| Plastic bottles | 0.2% | 14 |
| Recyclable glass | 0.1% | 10 |
| Recyclable metals | 0.1% | 10 |
| Recyclable food waste | 1.5% | 119 |
| Recyclable garden waste | 0.3% | 20 |
| Recyclable pet bedding | 0.0% | 0 |
| All other waste | 14.4% | 1,129 |
| Total | 100.0% | 7,823 |
| **Recyclables by bin** | **% composition** | **Projected annual tonnage** |
| Pulpable recyclables | 83.4% | 6,521 |
| Co-mingled recyclables | 0.4% | 33 |
| Organic recyclables | 1.8% | 140 |
| Total contamination | 14.4% | 1,129 |
| Total | 100.0% | 7,823 |

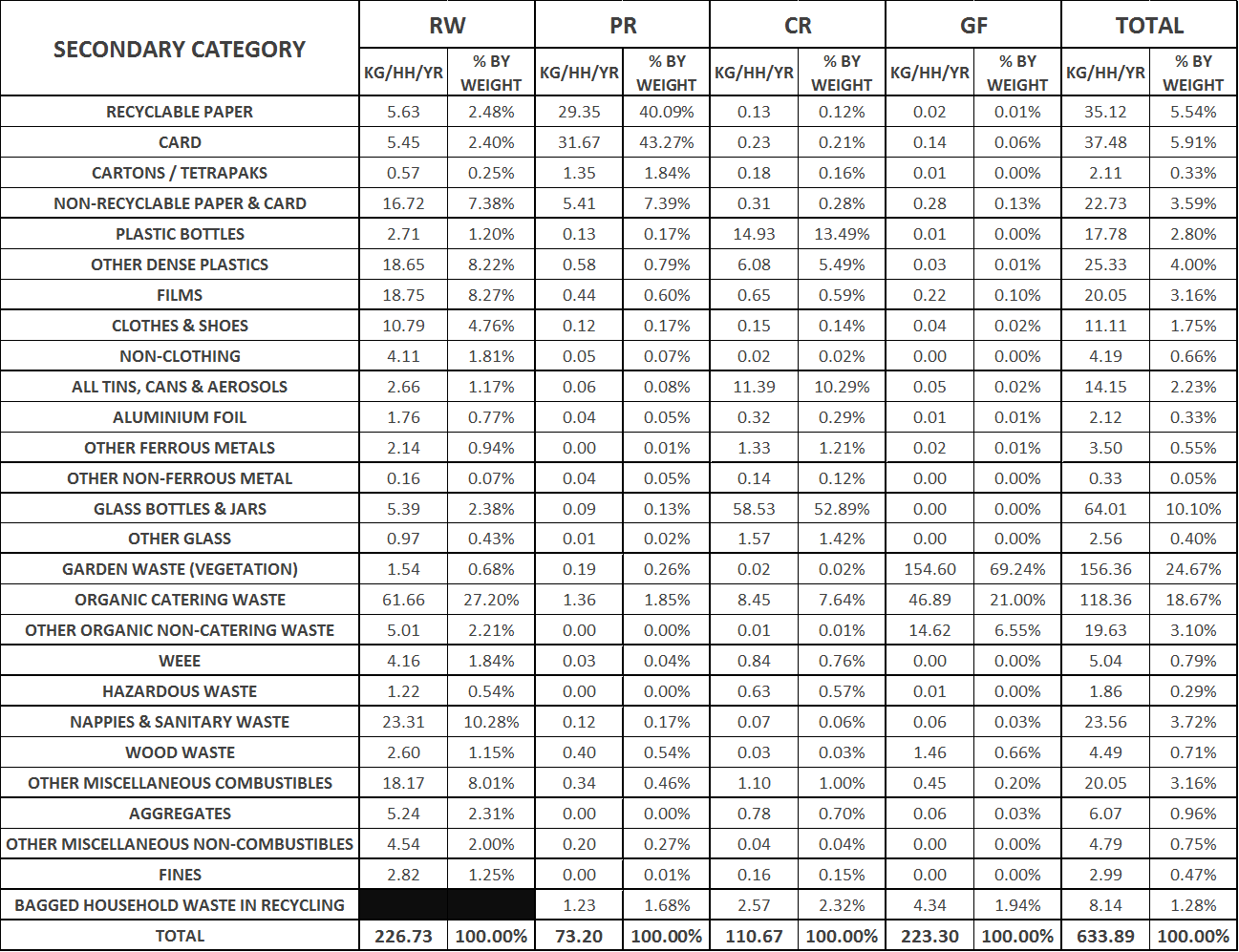
Tonnage composition – co-mingled recycling

|  |  |  |
| --- | --- | --- |
| **Recyclable materials** | **% composition** | **Projected annual tonnage** |
| Recyclable paper | 0.12% | 11 |
| Recyclable card & cardboard | 0.21% | 19 |
| Plastic bottles | 13.49% | 1,245 |
| Recyclable glass | 52.89% | 4,882 |
| Recyclable metals | 10.57% | 976 |
| Recyclable food waste | 3.01% | 278 |
| Recyclable garden waste | 0.02% | 2 |
| Recyclable pet bedding | 0.00% | 0 |
| All other waste | 19.70% | 1,818 |
| Total | 100.00% | 9,231 |
| **Recyclables by bin** | **% composition** | **Projected annual tonnage** |
| Pulpable recyclables | 0.32% | 30 |
| Co-mingled recyclables | 76.95% | 7,103 |
| Organic recyclables | 3.03% | 280 |
| Total contamination | 19.70% | 1,818 |
| Total | 100.00% | 9,231 |

Tonnage composition – organic recycling

|  |  |  |
| --- | --- | --- |
| **Recyclable materials** | **% Composition** | **Projected annual tonnage** |
| Recyclable paper | 0.01% | 1 |
| Recyclable card & cardboard | 0.06% | 11 |
| Plastic bottles | 0.00% | 1 |
| Recyclable glass | 0.00% | 0 |
| Recyclable metals | 0.03% | 5 |
| Recyclable food waste | 21.00% | 3,586 |
| Recyclable garden waste | 69.24% | 11,823 |
| Recyclable pet bedding | 0.22% | 37 |
| Liners | 0.00% | 0 |
| All other waste | 9.45% | 1,614 |
| Total | 100.00% | 17,076 |
| **Recyclables by bin** | **% Composition** | **Projected annual tonnage** |
| Pulpable recyclables | 0.07% | 12 |
| Co-mingled recyclables | 0.03% | 5 |
| Organic recyclables | 90.62% | 15,475 |
| Total contamination | 9.28% | 1,584 |
| Total | 100.00% | 17,076 |

Kerbside collected Waste Arisings (kg/hh/yr) and Assays (% by wt)



1. *https://acorn.caci.co.uk/what-is-acorn* [↑](#footnote-ref-2)