

UK Household Plastics Collection Survey



A publication to outline the collection
of household plastics in the UK.

2017

UK Household Plastics Collection Survey 2017

This work was commissioned by REcycling of Used Plastics Limited (RECOUP) using data, estimates and views gathered from UK Local Authorities and waste management companies. It also has the full support of LARAC (Local Authority Recycling Advisory Committee).

The content and analysis contained in this document is based on the information received. While every effort has been made to ensure the accuracy of the contents of this report, RECOUP can accept no responsibility or liability for any errors or omissions. Opinions expressed and recommendations provided herein are offered for the purpose of guidance only.

The 2017 Survey has been:

Researched by Steve Morgan, RECOUP Technical Manager & Kerry Campbell, RECOUP Project Officer
Written by Steve Morgan, RECOUP Technical Manager



REcycling of Used Plastics Limited (RECOUP)

Registered Charity No: 1072029 & Company Registration No: 2435729
1 Metro Centre, Welbeck Way, Woodston, Peterborough, UK, PE2 7UH
t: +44 (0)1733 390021 e: enquiry@recoup.org w: www.recoup.org

RECOUP is a leading authority on plastics recycling, providing expertise and guidance to a wide range of organisations and members across the plastics supply, use and recycling chain. Established in 1990, RECOUP is a registered charity and not for profit organisation built on a network of members.

RECOUP deliver research, project management and policy review activities for members and clients, working to maximise plastics recycling by stimulating the development of sustainable plastics waste management practices. This includes the improvement of plastics design, collection, sorting and reprocessing activities across the UK, undertaking bespoke research to identify good practices and remove barriers to the adoption of efficient recycling systems.



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Key Data

Plastics Packaging Placed on the Market

- **2,260,000** plastics packaging placed on the market
- Of this **1,119,000** tonnes of rigid plastics packaging consumed by households – **594,000** tonnes of plastic bottles and **525,000** tonnes of plastic pots, tubs and trays

Plastics Packaging Collections Data

- **Minimum** increases continue in reported household collections
- **512,475** tonnes collected for recycling - an overall **2.6%** increase
- **343,330** tonnes of plastic bottles - a **0.9%** increase
- **169,145** tonnes of plastic pots, tubs and trays – a **6.1%** increase

UK Plastics Packaging Recycling Data

- **1,015,226 tonnes** of plastic packaging collected for recycling from all sectors 2016 – a recycling rate of just under **45%**
- **63%** was exported and **37%** was recycled domestically
- The **512,475 tonnes** of rigid plastic packaging collected for recycling from UK households makes up **just over 50%** of the total plastics packaging recycled
- The remaining **1,244,774 tonnes** that is not recycled either goes to landfill or energy recovery end destinations

Scheme Type and Plastic Format

- Bottles make up **67%** of household plastic packaging collections - pots, tubs and trays make up **33%**



Household Plastics Packaging Collection Rates

- **58%** Plastic bottles
- **32%** Plastic pots, tubs and trays
- **46%** Rigid plastics packaging overall

Kerbside Plastic Collection Service Provision

- **391** Local Authorities in the UK
- Number of new collection services are **slowing down** – there were **7** new kerbside collection services for plastic pots, tubs and trays in 2016
- **386 (99%)** Local Authorities offer a kerbside recycling collection service that includes plastic bottles - just **5** do not offer a kerbside collection service for plastic bottles
- **298 (76%)** Local Authorities in the UK collect plastic pots, tubs and trays
- **75 (19%)** Local Authorities collect plastic film and **34 (9%)** Local Authorities collect non-packaging plastics as part of their kerbside collection service

Performance Rate - Average Collection Rates per Household per Year

- Plastic bottles - **12.06 kg**



Key Data

Kerbside Nation and Region Collection Levels

- The South East collected the largest quantity of plastic bottles with just under **48,000** tonnes - 15% of the UK total
- London collected the highest quantity of pots, tubs and trays with nearly **23,000** tonnes - 14% of the UK total

Facts & Stats

- **13 BILLION** plastic bottles are used each year in the UK - that's **36 MILLION** every day – **1.5 bottles per household**
- **7.5 BILLION** plastic bottles were collected for recycling in 2016 - that's nearly **21 MILLION** bottles every day
- Over **5.5 BILLION** household plastic bottles were not collected to be recycled from UK households - that's over **15 MILLION** plastic bottles every day
- Average UK household uses nearly **500** plastic bottles a year, but only recycles just under **290** of them
- Since 1994 there has been over **70 BILLION plastic bottles** collected since 1994 - that's over **3 MILLION tonnes!**
- There were just over **9,000 tonnes plastic pots, tubs and trays** being collected when collections levels were first reported, and this has now reached nearly **170,000 tonnes** - in total there has been nearly **1 MILLION tonnes** collected!



Kerbside Collection - Containers & Frequency

- **13%** Local Authorities, who responded, report there been a change in collection service frequency in the last 3 years
- Changes delivered positive results - **81%** increased collection quantities, **57%** increased quality, and **100%** reduced costs
- **75%** of Local Authorities use fortnightly recyclables collections, with **22%** using weekly collections
- Three and four weekly collections are increasing – **13%** of Local Authorities, who responded, report they are looking at moving to **three weekly or four weekly residual collections**

Treatment of Residual Waste

- **97%** of Local Authorities are aware of what happens to their residual waste
- Reported destination of residual waste - **36%** to EfW, **28%** to landfill, **23%** to RDF and **13%** to recycling
- **100%** of Local Authorities state the quality of the material collected for recycling from residual waste is acceptable
- **13%** of Local Authorities who responded are investigating or implementing the recovery of plastics from residual waste

Key Data

Recycling Consistency Guidelines

- Consistency in **collecting the same materials** and **presenting them in the same way for recycling** irrespective of your location is a major theme
- There are many **benefits** - increased recovery rates, reduced contamination, reduced costs and increased revenue
- **84%** of Local Authorities aware of the Guidelines for Consistency in Material Collections from WRAP
- **69%** currently using or planning to adopt the instructions for how residents should present their recycling
- **Over 90%** communicate with householders on the importance of reducing contamination and / or how to present their plastics for recycling
- There is an emphasis on **emptying and rinsing plastic bottles** (146 Local Authorities), with communications on **lids (116)** and **flattening and squashing bottles** (114) also included by many Local Authorities
- There is a strong emphasis on **rinsing** plastic pots, tubs and trays
- Removing **film lids** from plastic food packaging and removing **paper and card from plastic packaging** and recycling them separately also included by many Local Authorities
- Communications included **not including plastic film** and **expanded polystyrene**
- RECOUP are leading a cross sector group that is committing to providing solutions to the recycling of **black plastic packaging**



Recycled Plastic Markets

- Average mixed plastic bottle price in 2015 was **£70** per tonne
- The plastic bottles collected for recycling represents a potential total value of around **£24 million**
- The unrecycled household plastic bottles have a potential average value to reprocessors of over **£17m** and cost over **£25m** to dispose of
- Average price of a clear and light blue PET bale **£104**, coloured **PET £48**, Natural HDPE bale **£315** and mixed HDPE **£134**
- Costs for disposal of pots, tubs and trays not collected for recycling between **£36m** and **£54m**
- **2%** of Local Authorities struggled to find end markets for plastic bottles, **8%** for plastic pots, tubs and trays, **22%** for plastic film, and **20%** for non-packaging plastics

Budget Cuts

- **51%** of Local Authorities reported they had received budget cuts for providing waste and recycling collections or delivery of communications to householders about waste and recycling

Commercial Collections

- **56%** of Local Authorities who responded to the question provide a collection service to commercial properties or businesses
- **96%** of Local Authorities who responded stated the quality of the collected material was acceptable
- **51%** of Local Authorities who responded use an in-house waste provider



Key Data

Plastics Recycling in the EU

- **Plastics – The Facts 2016** reported **25.8 million tonnes (mt)** of post-consumer plastics were produced in 2014
- Plastics recycling and energy recovery reached **69.2%** - **29.7%** recycling, **39.5%** energy recovery and **30.8%** landfill
- There has been a **64%** increase in recycling, **46%** increase in energy recovery and **38%** reduction in landfill from 2006-2014
- Whilst **40%** of all plastic products placed on the market are packaging, it contributed **62%** to all plastic waste generated and around **80%** of all plastics recycled - just over **7.5 mt** of plastic waste was recycled, of which **6.3 mt** was packaging
- **9** countries with a landfill ban obtained a total recovery rate (recycling plus energy recovery) **above 90%**
- It remains **unclear** when the new circular economy package will be agreed and adopted for the EU, and following **BREXIT** if the UK will adopt the package and how formal this agreement will be



Consumer Communications

- **74** Local Authorities reported they were planning a communication to householders about plastics recycling
- **6** Local Authorities are planning to involve **retailers** in communications to householders
- Local Authorities reported they are focussing communications on **increasing collection rates and reducing contamination**
- **69%** of Local Authorities have discussions with their waste management service provider or MRF about the quality of materials collected and changes that could be made to improve quality - there was also **frustration** about lack of engagement with waste management providers and MRFs
- **Over 100** Local Authorities reported they would be interested in a **match funded partnership with Pledge 4 Plastics** to deliver communications
- Most popular way to describe non-bottle rigid plastic packaging to householders is to use a combination of **plastic format** (pots, tubs and trays) and **product use descriptions** (e.g. margarine tubs, yoghurt pots, etc) – some still use polymer codes, which RECOUP do not recommend
- Pledge 4 Plastics continue to provide resources to deliver plastics recycling communications - available for **FREE** through the Pledge 4 Plastics Resource Library
- **Plastics Recycling Resource Pack** produced with Recycle Now provides a comprehensive set of resources needed to run a successful consumer communications campaign all in one place
- Pledge 4 Plastics **Secret Life of Recycled Plastics** animation resources are available
- **New Pledge 4 Plastics resources** are being developed, including an update of the Plastics Recycling Resource Pack

Introduction & Thank You



The RECOUP UK Household Plastics Collection Survey is a specialist research-based report for those working across the plastics supply and recycling sectors who have responsibilities or interests in developing sustainable plastics recycling.

The focus is on the collections of waste and recyclables by all Local Authorities in the UK. A set of key questions about many aspects are distributed online to all involved in waste and recyclables collections in the UK, whether it be Borough, District, City or County Councils or Waste Partnerships.

The report always includes core information such as collection service provision, current plastics packaging collection levels and recycling rates, but also other areas that directly affect the collections. The focus this year is on areas such as the treatment and recovery of recyclables from residual collections, the drive for consistency in collections and how residents are engaged through consumer communications and also asked to present their recyclables for collection.

Using these distinct, but inter-connected areas, the Survey report provides a comprehensive review of the collection of household plastics for recycling in the UK, and the challenges and opportunities Local Authorities face on a daily basis.

There are also comments and case studies to show some practical examples from Local Authorities which could help and support approaches in strategy and potential 'on the ground' examples to develop future collections and engagement with residents.

As with every edition of the Survey report, RECOUP always ensures that the most robust data is used to provide an overview of collection provision, and calculate quantities and the percentages of plastic formats that are collected.

THANK YOU FROM RECOUP

We would like to thank the many Local Authority waste management and recycling scheme managers, officers and their service contractors who took the time to respond to the Survey and continue to make the research comprehensive and worthwhile.

The Survey is also supported by LARAC, which is a key consideration when engaging, collecting data and opinions and reporting the results.

RECOUP continue to have strong Local Authority and waste management presence in its membership, with LARAC, NAWDO and the biggest waste management companies in the UK being represented on the RECOUP board.

Introduction & Thank You

YOUR RESPONSES MATTER

As the Survey is made available for FREE download on the RECOUP website, we are able to track the readership reflecting wider interest in the environmental debate.

The 2016 Survey report had over 500 downloads, and it is increasingly being viewed by national media and also on a global level. Your responses this year are particularly important.



Ocean Litter

With an increasing focus on littering in our natural environment and some hard-hitting anti-litter campaigns, particularly in our waterways and oceans, the Survey report is being used to provide facts and accurate data. This is more important now than ever to provide a balanced and informed view of the use and recycling of plastics.

We have contributed to research and received coverage in Sky News Ocean Rescue, the BBC, national media, and other Non-Governmental Organisations (NGOs) including Greenpeace.

The report is being downloaded in many countries outside the UK who are looking to understand the picture in the UK and its development, and how they might be able to learn from our success and benchmark their future challenges.

The Future?

The direction which the UK now takes post-Brexit and what future strategy and aims are going to look like will start being shaped from now as the UK positions itself for the future. This includes future funding and the role of Extended Producer Responsibility in collection systems and consumer communications.

The findings of this survey will feed your data and views into waste management and resource strategy development and activities through a range of consultations, advisory groups including ongoing government led work. Focus areas are Recycling Consistency, communications and treatment of residual waste.

Stuart's Viewpoint - RECOUP CEO



Making kerbside systems as good as they can be will inevitably lead to higher household plastic collection levels. Sounds obvious but is there really the funding and desire to do it?

The reported performance levels shows plastic bottle collection rates of up to 80% and pot, tub and tray collection rates of up to 50% can be achieved by individual Local Authorities. So is it possible for all areas to aspire to and surpass these benchmarks and significantly boost plastic collection levels, or is this simply not possible due to the range of challenges and variables that the 391 UK Local Authority areas have to contend with?

There are moves towards more consistency in the plastic packaging types being collected for recycling across the UK and consideration of how services can be improved and aligned. There have also been some very good sorting infrastructure investments and communications initiatives which are also critical to a successful plastic packaging recycling chain.

It is recognised that when overall weight based recycling targets are placed on Local Authorities, plastics may not be prioritised, especially in times of austerity. Changing the targets, changing the metric of the targets, or increasing the financial support through increased producer responsibility are all valid considerations which have been tabled many times before, but not led to any change. There is a growing sense that this will not be the case this time around, with the need to increase plastic packaging recycling being a key focus for politicians, media and the producer supply chain itself.

We are still in a time of uncertainty and opportunity with Brexit implications unclear, export markets under review, and a number of future producer responsibility options being discussed. The opportunity to make current kerbside collections and their supporting infrastructure as good as they can be still presents a viable opportunity for significantly more tonnage and higher quality plastics to be sourced for recycling.

Communications continues to be a key focus for improving scheme performance, and many Local Authorities are planning a plastics recycling campaign over the next year. Adopting proven and effective consumer communications techniques on a regular basis will be a key part of any successful plastic collection scheme. The Pledge4Plastics initiative will continue to make tools and support available to deliver plastic recycling consumer communications campaigns and match Local Authority and corporate funding opportunities.



RECOUP - Our Voice

We are a leading authority on plastics resource management and recycling. Our vision is to lead and inform the continued development of sustainable plastics recycling and protect plastic resources.

A registered charity and member based organisation we have supporters and members from all sectors of the plastic packaging supply and recycling chain. We use the knowledge and expertise of our network both in the UK and Europe to deliver insight, research and projects, often free and accessible to all.

Our Message for 2017

With the necessity for this generation to take greater environmental responsibility, the work of RECOUP is more important than ever before. The direction is absolutely right with a fundamental shift toward better long term use of resources and the development of circular economy models. It is imperative that the practical business case for maintaining and increasing plastic recycling is robust, and more companies recognise and support the valuable work of RECOUP in achieving these aims.

There are many practical benefits for Local Authorities to become RECOUP members – understanding the supply chain to maximise material prices, engagement with collaborative initiatives such as Pledge 4 Plastics, or bespoke research or innovation projects that can develop and add value to council services. Our Local Authority members are:



Our Trustees

RECOUP is underpinned by the strength of its team and its trustees. The Board meets on a regular basis to represent their sector and develop RECOUP's strategy and direction. The Trustees are supported by a team of professional advisors with specific expertise in recycling, finance and legal issues. Trustees are all senior managers and directors, providing valuable input and expertise on issues affecting the plastics recycling industry. They bring particular knowledge of their sector areas, ensuring that the financial and operational activities of RECOUP serve the best interests of plastics recycling, providing value for members.



RECOUP - Our Voice

RECOUP's Other Valued Members



Contact the RECOUP team if you would like to talk about the benefits of membership!

RECOUP Member Case Study

Great Manchester Waste Disposal Authority are RECOUP members, and are a good example of a progressively thinking partnership. Like other partnerships they have challenging targets, but they hope to tackle this with an interesting approach to consumer communications.



[Greater Manchester Waste Disposal Authority](#) (GMWDA) is England's largest disposal authority responsible for the disposal of waste from nine waste collection authorities within Greater Manchester; Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside and Trafford.

We have a network of waste management facilities including:

- 20 Household waste recycling centres
- 1 Materials Recycling Facility (MRF)
- 5 Mechanical biological treatment plants
- 4 In-Vessel Composters
- 2 Green waste shredding facilities
- 1 Thermal Recovery Facility
- 7 Transfer loading stations.

Across Greater Manchester we operate a 4 bin system; one for paper & card (including cartons), one for glass, cans, aerosols, foil and plastic bottles, one for food and garden waste and a residual waste bin. All of the districts have now implemented restricted residual waste collections by either changing to a 3 weekly collection in a 240litre bin (Bury, Oldham, Rochdale and Salford) or by introducing a 140litre bin collected every 2 weeks; (Bolton, Manchester, Tameside, Trafford and Stockport).

Currently the overall recycling rate for Greater Manchester is 44.1%. However, even with the restricted residual waste implemented across all 9 districts, a recycling rate of 50% by 2020 is unlikely to be achieved.

GMWDA's customer facing brand is [Recycle for Greater Manchester](#), through this brand we deliver a range of on the ground

[campaigns](#), social media platforms and education visits at our facilities.

For the past 9 years, we have run a mix of Greater Manchester wide integrated marketing communications campaigns as well as annual behaviour change campaigns in each district. However, our challenge now is to deliver the sustainable behaviour change required to increase the recycling rate. So we are implementing a new 5 year communications strategy based on strategic analysis and evidence based delivery.

The main areas of focus are:

- Reduce contamination in recycling and improve quality
- Increase food waste recycling (all districts now offer a food waste collection service, food is collected with garden waste)
- Resource Greater Manchester; our partnership with WRAP

Contamination

Contamination is as much a concern across Greater Manchester as it is for the rest of the UK. In 2015/16 the MRF rejection rate was significantly higher than our accepted level of 5%. Therefore as part of our communications strategy, we are following the journey from the household to the facility in an attempt to understand where the issues are and how we can address them. We are analysing sampling data, rejected load reports and talking to our partners; the waste collection authorities. We are also reviewing best practise campaigns and using the WRAP segmentation analysis to develop targeted contamination campaigns in areas where the data shows behaviour change intervention is needed.

RECOUP Member Case Study

Images of contamination at the MRF – plastics and WEEE



Increasing Food Waste Recycling

Food waste is the largest potentially recyclable item in the residual bin. Research shows that between 15-22% (source: GMWDA waste compositional analysis 2011, Trafford Council waste compositional analysis 2016) of the residual bin is food waste. WRAP identifies that the main reason for residents not recycling food waste is the perceived hygiene issues and a lack of understanding as to what can be recycled. We are currently researching and developing a food waste campaign that will be delivered next year with the aim of increasing the capture from households already using the service but are not recycling all food and to encourage non-recyclers to start separating and collecting their food waste.

Resource Greater Manchester

Resource Greater Manchester is a 3 year partnership with WRAP aimed at delivering the common objectives associated with the zero waste agenda, capturing efficiencies from joint working and to increase opportunities arising from Manchester's devolution agenda. The main outputs from the partnership are:

- Road map to 60% , a high level appraisal which will outline possible scenarios and the effect on the recycling rate should we decide to implement them,
- Behavioural change tracker which explores Greater Manchester residents' knowledge, attitude and behaviour in relation to recycling,
- Segmentation analysis to understand the attitudes and behaviour of residents and enable us to create targeted campaigns designed to increase capture of food and dry recycling and reduce contamination,
- Waste compositional analysis,
- Test and learn pilot campaigns.

The segmentation analysis provides us with an insight into the behaviours of Greater Manchester residents in relation to recycling along with their media consumption habits as well as their broader views on local and global issues. The segments range from segment 1 'What's in it for me?' to segment 6; 'Indifferent'. Each segmentation report includes an overview of their key characteristics and outlines their motivations and barriers to recycling as well as consideration as to how we can engage with them. The report also suggests the media outlets they tend to favour as well as where they shop.

Our challenge now is how best to embed the segmentation data in our social media channels, offline print, behaviour change campaigns and education tours to allow us to engage effectively with all segments with the ultimate goal of empowering them to change their behaviour to increase recycling whilst minimising contamination.

Contact Details

Jennifer Baker

Head of Behavioural Change & Communications

0161 770 1700

Website: www.gmwda.gov.uk

Twitter: https://twitter.com/GM_WDA/

Linked In: <https://www.linkedin.com/company/greater-manchester-waste-disposal-authority>

Data, Calculations & Reporting

The approach to the collection data and how it is calculated is important in understanding what the Survey can report and how it arrives at those figures.

RECOUP always use the most robust data available to calculate plastics packaging placed on the market and collection quantities.

Calculating & Validating Collection Quantities

Calculating collection quantities is not simply adding up sequentially reported tonnages as there are many variables that can affect the reported quantities from Local Authorities. Even if an overall total of plastics collected can be provided, it is often not possible for Local Authorities to provide plastics collection quantities broken down by collection scheme or plastic format.

Accurate and audited collection data is reliant on the necessary resources and processes, and the data reported is defined by the time and operational processes in place.

The reported data and information for the Survey is always checked, but it might need to be followed up, or varied methods used to ensure that the final dataset, to establish service provision and collection quantities, is as accurate as possible.

Plastics fractions are increasingly being reported as part of commingled totals or for a combination of all dry recyclables.

Plastic only data is often reported as a percentage estimate based on compositional analysis by the Local Authority or Materials Recovery Facility (MRF) provider. When totals for all dry recyclables are reported the plastic fraction is calculated using averages for plastic formats collected.

There are also other variables to consider when calculating the reported quantities. An increasing trend to collect commingled materials, collection quantities are reported from all collection services - kerbside, bring, recycle on the go, commercial and HWRC schemes – with bring and recycle on the go units serviced as part of the kerbside collection route. Data reported in this way is accounted for when calculating collection quantities.

Clarification might also need to be sought on the different interpretations of 'mixed plastics packaging' to identify whether this means plastic bottles, pots, tubs and trays and /or plastic film.

If there is no collection data or partial data, the estimated dataset is completed based on this service provision and then applying reasonable assumptions based on those services. This is completed in one of two ways, either using one of the previous two years' responses to the Survey, or average performance data using the number of households in that authority against the average that can be expected to be collected for these households (kg per household per year).

Checking Websites

In addition to the Survey responses every Local Authority website was checked to see what collection services are provided. If there was any conflicting information on the website, the Local Authority was contacted to ensure the information used is accurate.

Confidence Interval

Although a high proportion of the data and analysis in the Survey is based on actual responses only, analysing and measuring performance indicators is not a straightforward process.

There is a well-established number of performance indicators provided for plastic collections, but there are many factors that can influence a scheme's collection performance, operational efficiency and cost, including types and quantity of other materials collected, types of housing collected from and their locations (urban / rural), demographics (population make up), and how the scheme is communicated to residents.

All data has been analysed to provide a high probability confidence interval - i.e. data that is considered to be incorrectly reported has been omitted or re-estimated using appropriate available data and known variables and are therefore provided for indicative purposes only.

This approach is particularly relevant for the *UK Household Plastics Collection Data* section to analyse performance indicators such as average collections per household per year (kg per household per year) and frequency of collections.

Response Rate

The responses in the 2017 Survey was provided by over 70% of collection authorities in the UK and is based on data and information in the 2016 calendar or 2016/17 financial year data.



Data, Calculations & Reporting

WasteDataFlow

WasteDataFlow - Local Authority Recycling Performance Data vs Plastics Recycling Levels

WasteDataFlow (www.wastedataflow.org) is an online based database for UK Local Authorities to report municipal waste data to the government.

It has been established there are limited obvious links between plastics collections and Local Authority recycling rates reported by WasteDataFlow using Q100 (Question 100) questions. The same issues Local Authorities have in reporting quantities for material specific data in this RECOUP Survey also exist in completing WasteDataFlow. Again, this can be due to the data reported for WasteDataFlow is for all dry recyclables, and plastic specific data is calculated using percentage estimate based on guidelines from WasteDataFlow or there is limited or no plastic specific data available.

RECOUP reviews data reported in WasteDataFlow, but data for any year is not released at least until towards the end of the following calendar year.

RECOUP continues to monitor the most accurate and effective methods, including WasteDataFlow to report the best dataset to monitor household plastics packaging collections.

HWRCs, Plastic Film and Non-Packaging Plastic

The collection quantities reported in the Survey do not include plastic film, non-packaging plastics and collections from HWRCs, and are sometimes reported as part of a total plastics collection quantity (and accounted for when calculating collection quantities).

As with previous Survey reports, efforts have been made to gain more data about these collections, but there is still not enough data to estimate a UK wide total tonnage. However, with kerbside collection of plastic bottles and pots, tubs and trays making up the majority of the collected tonnage, RECOUP believe the quantities from these collections would not significantly impact the overall total tonnage collected for recycling in the UK.

Non-Household Sectors

The Survey only reports data from households in the UK and does not include plastics from non-household sectors such as commercial and industrial, construction and demolition, agriculture, and plastics from ELV (End of Life Vehicles) and WEEE (Waste Electronic and Electrical Equipment).

Although some Local Authorities do offer commercial and industrial plastics collection schemes it is not possible to provide collection data without extensive research. The 2017 Survey report does investigate the use and performance of commercial collections (see page 42-43).

It is identified though that an unknown volume of 'household like' plastics from non-household sources will enter household recycling systems, for example, when consumed in the workplace or 'on the go', but it is not possible to provide a robust estimate of this.

Terminology & Acronyms

The main terminology used in this report is as follows.

Collection scheme:

- Kerbside – recyclables collected from householders' doorsteps
- Bring – containers placed in central public locations such as supermarket sites and car parks
- HWRC – Household Waste Recycling Centre
- Recycle on the go – units placed in public areas
- Commercial – where businesses and organisations pay for their waste and recycling to be collected

Plastic formats:

- Plastic bottles
- Non-bottle rigid household plastics packaging – referred to as Pots, Tubs and Trays (PTTs)
- Plastic film

Acronyms that could be used in this report have, in general, been spelt out unless they are specifically referred to many times in one section.

UK Plastics Collection Services

The service provision provided by Local Authorities in the UK to collect plastics from households is the cornerstone of the quantities collected for recycling.

The RECOUP Survey completes a comprehensive review to establish the service provision for plastics packaging collections across the UK. This is based on three research routes - the actual responses from the Survey questions by Local Authorities, checking all their websites, and calling to check any conflicting information.

Local Authorities in the UK

There are **391** Local Authorities in the UK with:

- 326 in England
- 32 in Scotland
- 22 in Wales
- 11 in Northern Ireland



Kerbside Collection Schemes

It can be confirmed that from the 391 Local Authorities in the UK the service provision for each plastic format is:



FIGURE 1 - KERBSIDE COLLECTION SERVICE PROVISION BY PLASTIC FORMAT

With kerbside collection services so prevalent across the UK there is a relatively low number of new services being reported each year.

Plastic Bottles

Compared to the previous year one more Local Authority, Forest of Dean District Council, added a collection in August 2016. This leaves **5** Local Authorities not providing a kerbside collection service that includes plastic bottles:

- × Copeland Borough Council
- × Council of Isles of Scilly
- × Rotherham Metropolitan Borough Council
- × Shetland Islands Council
- × Tonbridge and Malling Borough Council

Contractual and geographical reasons are key reasons why a service is not yet in place, and with 99% of Local Authorities offering a kerbside plastic bottle collection service, 100% kerbside coverage maybe isn't too far away.



UK Plastics Collection Services

Plastic Pots, Tubs & Trays

7 Local Authorities reported they added plastic pots, tubs and trays to their collections in 2016. The number of new services to collect pots, tubs and trays are slowing down, with only **14 Local Authorities adding a service in the last 5 years**. As a result of kerbside collection services passing 75% some plastic pots, tubs and trays have moved from 'Check local recycling' to 'Widely recycled'.



On Pack Recycling Label Guidelines

OPRL's new 2017 Guidelines have designated more packaging materials as Widely Recycled, following a detailed review of current Local Authority collections. Included in this change are plastic Pots, Tubs and Trays. Certain clear and non-black opaque plastic pots, tubs and trays (PTTs) can be Widely Recycled in kerbside collections.

This means PTTs can automatically be added to kerbside recycling collections by householders, without the need to 'check local advice'.

Since categories are based on council collections data, black plastic trays, including ready meal trays, remain in the Check Locally category. In a first step to differentiate between materials that are collected and recycled, and those that are collected and may be sent for energy recovery or other disposal, these are now included on a 'Less recyclable materials' list in the Guidelines, together with expanded and other plastics, mixed materials and bio-degradables.

In contrast, materials such as glass, metals, paper, card, non-black PP, clear uncoloured aPET/rPET and non-black HDPE are listed as 'Recommended materials', based on analysis of their likelihood of being recycled.

The OPRL label has three categories which tell consumers how likely it is that their Local Authority will accept specific packaging materials for recycling. The categories are:

- Widely Recycled (75% or more of UK Local Authorities collect that type of packaging)
- Check Locally (between 20% and 75% of UK Local Authorities collect that type of packaging)
- Not Yet Recycled (fewer than 20% of UK Local Authorities collect that type of packaging)

Full details can be found at: www.oprl.org.uk/wp-content/uploads/More-Materials-Now-Widely-Recycled-Under-OPRL-Scheme-PN-8-Feb-17.pdf

Plastic Film

There is a reduction in the number of Local Authorities who collect plastic film as part of their kerbside recycling collections – from **80** Local Authorities in 2015 to **75** in 2016.

RECOUP has found information is often not clear when Local Authorities report they collect plastic film, and Local Authorities can report different service provision for plastic film to the RECOUP Survey than is reported to their residents (and included on their website).

The message to residents can state plastic film is not accepted, but film is actually accepted as an input material at the MRF and the Local Authority does not want additional plastic film in the recycling material stream. In addition, when dry recyclables are collected in bags, the Local Authority can state they accept plastic film, but this is not for wider collections of plastic film such as carrier bags, bread bags, multi-pack bags, etc.

In the 2017 RECOUP Survey only the Local Authorities who provide a film message to their residents have been included as providing service provision to their residents. This gives insight as to why 5 less Local Authorities report they provide service to collect plastic film as part of their kerbside service.

With the inherent problems of collecting plastic film it is unlikely more collections will be added in the near future without incentives or investment in recovery for this plastic format.

UK Plastics Collection Services

Non-Packaging Plastics

A total of **34** Local Authorities reported they collect non-packaging plastics as part of their kerbside collections – a reported increase of **13** (62%) in last year. These could include small Waste Electronic and Electronic Equipment (WEEE), such as unwanted or broken toasters, kettles, irons, hairdryers, drills, radios, small electronic toys, telephones, power tools, straighteners, shavers, clocks and alarms. Other small plastic items such toys can also be collected.

These are often asked to be placed in a clear bag next to recycling containers for collection to separate them from other items.



Kerbside Service Provision Developments - 5 Years

Figure 1 shows the percentage of Local Authorities in the UK offering a collection service for each plastic packaging format in the last 5 years, and demonstrates the slowing down of new collection services being introduced.

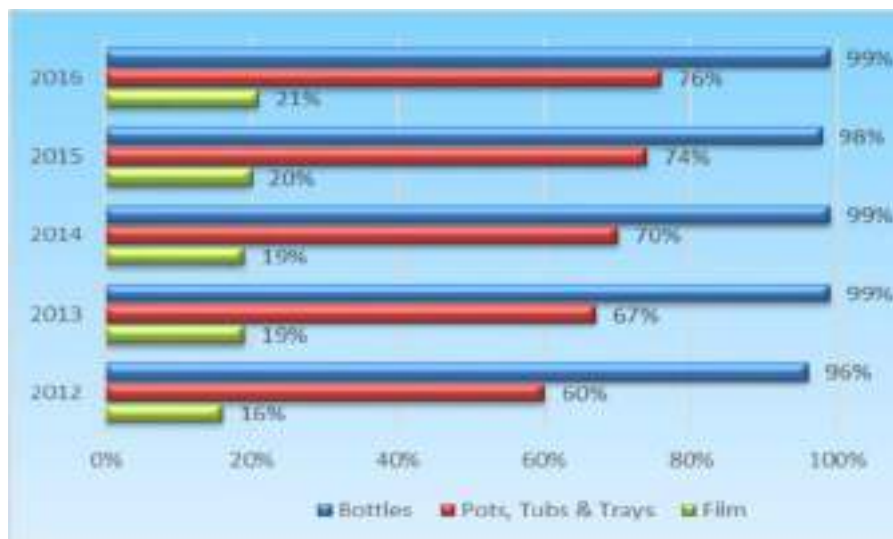


FIGURE 2 - KERBSIDE COLLECTION DEVELOPMENTS BY PLASTIC FORMAT IN THE LAST 5 YEARS

Over the 5 year period there have still been marked increases in the collection infrastructure despite the reduction in the overall number of Local Authorities in the UK (reducing from 406 to 391).

There has been a small increase in plastic bottle and plastic film collection services, but an additional 54 Local Authorities are now collecting plastic pots, tubs and trays.

2012 2013 2014 2015 2016

UK Plastics Collection Services

Removing A Service?

The 2017 Survey asked Local Authorities whether given the current financial climate, if they were considering withdrawing a collection service that includes plastics?

From 153 responses to the question only 3 stated they were considering such a move – an HWRC service for plastic bottles, a bring service for plastic pots, tubs and trays, and also a kerbside service for bottles. In many cases it should be more cost effective to recycle and avoid landfill and energy from waste costs, but sometimes wider contamination of dry recyclables or external factors such as contractual renewals could play a part.

On this evidence, it is likely with new kerbside services for particularly non-bottle plastics packaging, any removal of service is offset by new services being introduced.

As those responsible for dry recyclables collections continue to experience a challenging financial climate, RECOUP will continue to monitor the effects of financial restrictions to provide collection services, both in terms of adding new services and removing existing provision.

Number of Households Receiving a Service

If a Local Authority offers a kerbside collection service it does not mean that every household will benefit from a collection service. This might be due to the type of property it is (for example flats or apartments), the location of the property (it might not be viable practically or financially to provide a service for households that are in remote locations), or the property might be empty for long-periods such as holiday lets or second homes. It also might be due to a collection scheme that is in a trial period and is gradually being rolled out to the households in that area. Considering this level of detail, only indicative figures can be provided on how many households receive a service both by nation and on a UK wide level.

To provide an estimate, an assumption can be made based on whether the percentage of Local Authorities that collect a plastic format as part of their kerbside collection service:

(a) provides a typical representation of the average number of households per Local Authority in the UK (with at least one usual resident within a Local Authority i.e. the household has a regular kerbside collection [*]);

(b) every household in these Local Authorities are able to place their plastics in the recyclables collection container

[*] The sources for the number of households are the: *Office for National Statistics - 2011 Census: Population and household estimates for England and Wales; National Records of Scotland - Estimates and Dwellings in Scotland, 2014; and Northern Ireland*

Statistics & Research Agency - Census 2011, Population and Household Estimates by Local Government District for Northern Ireland, September 2012.

This provides the maximum number of households that receive a kerbside collection in each nation. It should be noted it is assumed the plastic bottle schemes are fully established and it is more likely the maximum estimated number of households stated is accurate; for non-bottle plastics a number of schemes are in their infancy and / or used on a trial or restricted basis, and therefore actual figure of households covered will be less than the estimated maximum number.

A summary of the kerbside infrastructure in the UK for England, Scotland, Wales and Northern Ireland to collect plastic is shown in Figures 2, 3 and 4. This includes the total number of Local Authorities in each nation, the number and percentage of Local Authorities that provide a collection scheme, and using the methodology described above the maximum number of households that could receive a kerbside collection service.



UK Plastics Collection Services

Plastic Bottles - If every household was able to make use of the kerbside service in the 99% of Local Authorities that collect plastics bottles as part of their kerbside collection scheme, the plastic kerbside infrastructure in the UK covers a maximum of 26.1 million of the 26,489,296 households in the UK.

Kerbside Schemes - Plastic Bottles				
Nation	Total Number of Local Authorities in the UK	Number of Local Authorities Collecting Plastic Bottles	% Local Authorities Collecting Plastic Bottles	Maximum Number of Households Covered
England	326	322	99%	21,792,683
Scotland	32	31	97%	2,344,298
Wales	22	22	100%	1,302,700
Northern Ireland	11	11	100%	703,275
Total	391	386	99%	26,142,957

FIGURE 3 – KERBSIDE COLLECTION SCHEMES BY NATION – PLASTIC BOTTLES

Pots, Tubs and Trays – the 76% of Local Authorities collecting plastic pots, tubs and trays covers a maximum of just over 20.1 million households.

Kerbside Schemes - Plastic Pots, Tubs and Trays				
Nation	Total Number of Local Authorities in the UK	Number of Local Authorities Collecting Plastic Pots, Tubs & Trays	% Local Authorities Collecting Plastic Pots, Tubs & Trays	Maximum Number of Households Covered
England	326	241	74%	16,310,673
Scotland	32	25	78%	1,890,563
Wales	22	21	95%	1,243,486
Northern Ireland	11	11	100%	703,275
Total	391	298	76%	20,147,998

FIGURE 4 – KERBSIDE COLLECTION SCHEMES BY NATION – PLASTIC POTS, TUBS & TRAYS

Plastic Film - with 19% of Local Authorities collecting plastic the maximum number of households that could receive a service is just over 5 million households.

Kerbside Schemes - Plastic Film				
Nation	Total Number of Local Authorities in the UK	Number of Local Authorities Collecting Plastic Film	% Local Authorities Collecting Plastic Film	Maximum Number of Households Covered
England	326	62	19%	4,196,107
Scotland	32	6	19%	453,735
Wales	22	7	32%	414,495
Northern Ireland	11	0	0%	0
Total	391	75	19%	5,064,337

FIGURE 5 – KERBSIDE COLLECTION SCHEMES BY NATION – PLASTIC FILM

UK Plastics Collection Services

Bring Schemes

Bring schemes are containers located in public locations (such as supermarket sites and car parks) where the public can place their recyclables.

With the majority of plastics now collected from kerbside schemes, bring schemes are generally used by Local Authorities alongside kerbside schemes to supplement their recyclables collection provision. With the drive to increase recycling collections and reduce landfill costs, where funding allows, a bring service can be a useful service provision to provide. This is particularly true where a plastic format is not collected as part of the kerbside collection service, or where the kerbside service is not available to all residents, such as in rural communities or high-rise property areas.

If Local Authorities are thinking about the decision to introduce, retain or withdraw bring schemes that includes plastics, there are many considerations to factor in alongside any cost-benefit analysis of the overall plastics collection schemes operated.

The reasons cited by Local Authorities for retaining a bring scheme included support kerbside collections, meeting residents needs, public demand for the service, and also an overflow for households who have limited kerbside collection container capacity and cannot fit all their plastic items in.

Generally bring services are steadily decreasing, which is mainly due to maintenance costs and contamination levels, or Local Authorities focussing resources purely on kerbside and HWRC collection services.

In the 2015 Survey a comprehensive review was completed after it was established there were inaccuracies in the reporting about bring schemes, either through confusion with HWRC services or out of date information on Local Authority websites.

In the 2017 Survey **68%** of Local Authorities who responded to the question stated they provided a bring scheme service for plastics packaging. This could provide an indication of the use of bring schemes in the UK, although with RECOUP being informed that bring services have been gradually been removed for several years it is estimated that this percentage is slightly high.

In 2015 it was also reported that **20** Local Authorities collected non-packaging plastics as part of their bring service, and more research is needed to indicate whether this is an opportunity for collection services across the UK.

Recycling on the Go

RECOUP have had extensive experience of installing and maintaining recycle on-the-go units, and believe continued challenges of 'away from home' schemes can be overcome and that they provide great opportunities.

An effective recycle on-the-go scheme can generate good quality material and also reduce litter, and there can be clear benefits for encouraging and reinforcing positive recycling behaviours, both on the go and taking those positive behaviours home.

Too often though the units are heavily contaminated, but this can be resolved in many cases with clear and strong unit signage, regular collections and communicating with residents and visitors alike through available communication channels such as street signage, digital channels or communications direct to households.

The messages and approaches may differ, but engaging the public to have pride in their local community and using different techniques such as voting bins can help to provide an effective service (voting bins are where units are used to vote for an answer to exciting and / or locally based question or issue).

A question was asked in the 2017 Survey whether Local Authorities provide a recycle on the go service. Of those who responded to the question **46%** stated they offer a service and **54%** said they did not. It is expected there is a higher percentage of Local Authority managed schemes in place across the UK and further research is needed to establish the infrastructure in place.



UK Plastics Collection Services

Household Waste Recycling Centres (HWRCs)

Household Waste Recycling Centres (HWRCs) are available to the public for the disposal, recycling or re-use of a wide range of household materials and items. These public sites are often under the responsibility of the Waste Disposal Authority (WDA), which tends to be managed by the County Council and not the individual collection Local Authorities.

They offer supplementary collection points for plastics which are collected at kerbside, and are the primary point for those plastic items not compatible with kerbside services such as non-packaging plastics including small and large WEEE items and bulky goods such as plastic furniture.

RECOUP have asked about HWRC services in recent Surveys, and the service provision for the UK is developing. There are information gathering issues when trying to build up UK wide service provision data as a service can be managed by the WDA or the collection authority.

When asked if an HWRC service included plastics 89% of Local Authorities who responded to the question stated they offered a service, with many of the HWRC sites providing collections for non-packaging plastic formats but also plastic packaging, which supplements any kerbside, bring and recycle on the go scheme in place.



Plastic Paint Pots & Plant Pots

Plastic paint pots are inherently valuable both in terms of any paint that can be recovered (through the Community Repaint Initiative), and the pots themselves which are ideal for recycling when empty.

PLASTIC PAINT POT PILOT PROJECT

RECOUP have completed a cross sector consortium pilot project to evaluate the commercial and practical recyclability of plastic paint pots. A case study is available on the RECOUP website (www.recoup.org).

Plant pots, also commonly referred to as flower pots in consumer communications, are mainly manufactured from Polypropylene, and if this fits in with the feedstock requirements of the MRF and reprocessor (and potential associated issues with soil contamination), they can be added to existing plastic pot, tub and tray collections.

Previous Survey reports have investigated HWRC collection provision for plant pots and paint pots and found around 70 schemes in place for both plastic formats, although it should be noted that many paint pot schemes collect the paint and not the plastic pot itself.

Household Plastic Collection Data

The quantities and measurement indicators provides a status of the overall performance for the collection of plastics from UK households.

Plastics Packaging Collected for Recycling from UK Households

The total plastics packaging collected from households in the UK in the 2017 RECOUP Survey is **512,475 tonnes**:

2016 (Tonnes)	Plastic Bottles	Pots, Tubs and Trays	TOTAL
	343,330	169,145	512,475

FIGURE 6 – QUANTITY OF HOUSEHOLD RIGID PLASTICS PACKAGING COLLECTIONS

This shows:

- The continuing trend of small annual increases in the collection levels of plastic bottles and;
- The steady increase of the collection of plastic pots, tubs and trays as more services are introduced by Local Authorities

	2015	CHANGE		2016
		Tonnage	% Change	
Plastic Bottles	340,160	▲ 3,170	▲ 0.9%	343,330
Pots, Tubs and Trays	159,465	▲ 9,680	▲ 6.1%	169,145
TOTAL	499,625	▲ 12,850	▲ 2.6%	512,475

FIGURE 7 – CHANGES IN HOUSEHOLD RIGID PLASTICS PACKAGING COLLECTIONS

Although the overall **2.6%** provides a slightly bigger increase than the **1.4%** increase in rigid plastic packaging collection levels reported in 2015, it is significantly lower than the **5%+** increases seen in rigid plastic packaging in 2013 and 2014.

Plastic bottle collections continue to slow following **3%** increases each year in 2012-2014, with a **sub-1%** increases in 2015 and 2016.

There were **11%** and **12%** increases in collection quantities of plastic pots, tubs and trays in 2013 and 2014. The **3%** and **6%** increases in 2015 and 2016 represent these services becoming more mature and collection levels stabilising. Collection levels for plastic film, non-packaging plastics and plant pots are covered on page 32.

Household Plastics Packaging Recycling – The Story

Each RECOUP Survey gives an indication of the growth in plastics recycling. It has told a successful story and Figure 7 is heavily used to represent both the past successes and challenges for the future.

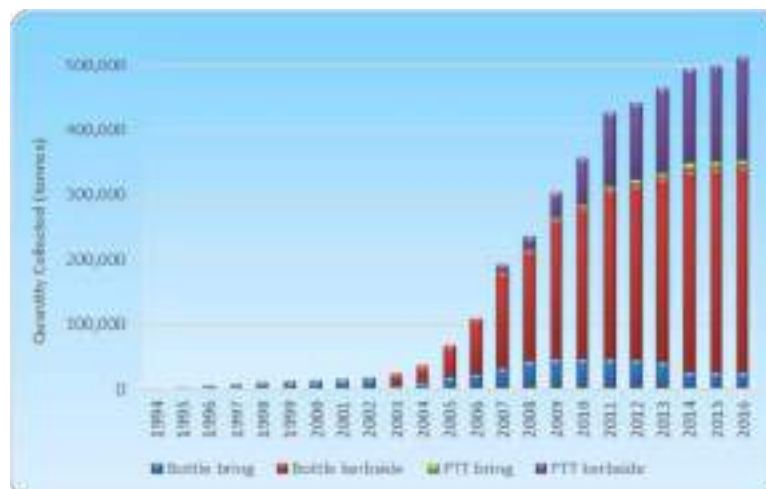


FIGURE 8 – GROWTH IN HOUSEHOLD RIGID PLASTICS PACKAGING COLLECTION

Household Plastic Collection Data

Plastic Bottles

Only **425 tonnes** of plastics were collected when collection data was reported in the first RECOUP Survey in 1994 – the equivalent of **9.3 million plastic bottles** – this was all from bring schemes. By 2003 it was reported that 24,000 tonnes of plastic bottles were collected for recycling - **just over 500 million bottles**. This included 18,000 tonnes from kerbside schemes – which was now over three times more than from bring schemes. At this time the collection of commingled dry recyclables from households became more common.

The infrastructure for collecting plastic bottles from kerbside collection schemes started to see significant increases in the mid-2000's, which was mainly attributed to many new services being launched and existing schemes being expanded and becoming more efficient.

The total number of plastic bottles collected each year is shown in Figure 8. In total there has been over **70 billion plastic bottles** collected since 1994 - that's almost **over 3 million tonnes!**

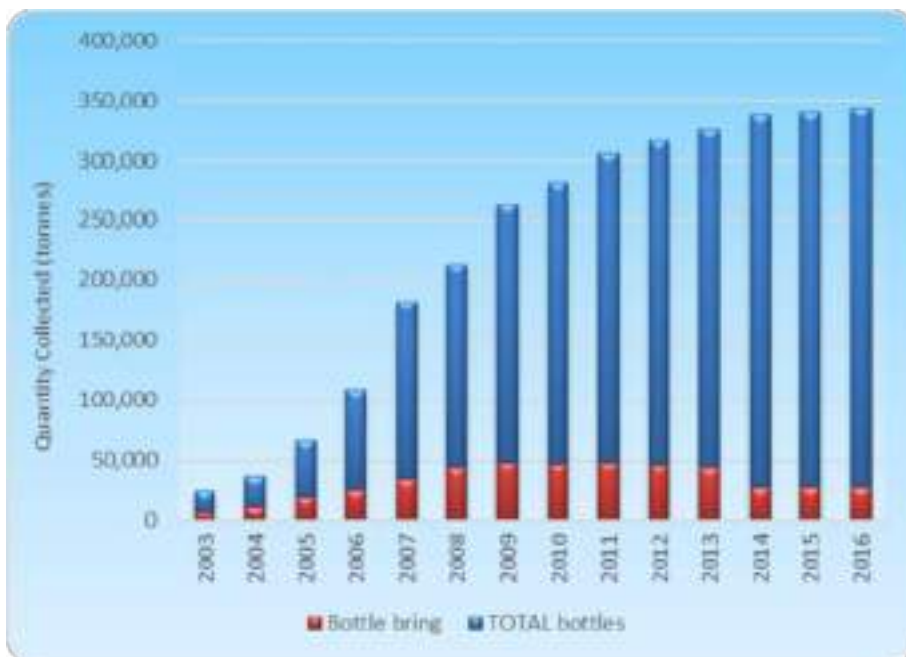


FIGURE 9 – QUANTITY OF PLASTIC BOTTLES COLLECTED SINCE KERBSIDE SCHEMES REPORTED COLLECTION QUANTITIES

Pots, Tubs & Trays

Since kerbside collection data for plastic pots, tubs and trays started to be reported in 2007 there has been steady and significant increases in collection quantities of this plastic format (see Figure 9).

There were just over **9,000 tonnes** being collected in 2007 when collections levels were first reported, and this has now reached nearly **170,000 tonnes** in 2016. In total there has been nearly **1 million tonnes** collected since 2007!

The increases continue to be predominately from kerbside collections, although there is service provision from bring and HWRC facilities schemes across the UK that were either introduced because the kerbside collection service did not include plastic pots, tubs and trays or to complement the kerbside scheme.

With over 90 Local Authorities still not collecting plastic pots, tubs and trays (see page 18), this is where the biggest opportunity lies to increase collection levels. With end market destinations only proven for Polypropylene fraction of plastic pots, tubs and trays the business case is still to be proven for Local Authorities to instigate the collection of this plastic format.

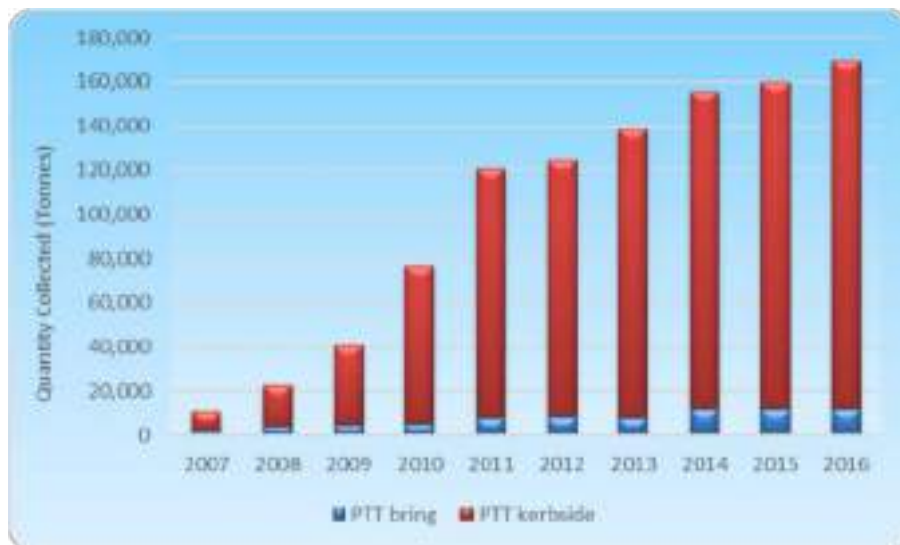


FIGURE 10 – QUANTITY OF PLASTIC POTS, TUBS AND TRAYS COLLECTED SINCE KERBSIDE SCHEMES REPORTED COLLECTION

Household Plastic Collection Data

Household Plastics Packaging Collection Rates

Collection rates are based on the percentage of plastics packaging placed on the market that is collected for recycling. These rates are an effective way of providing an indication of how well the UK is performing in collecting plastics packaging for recycling.

To calculate these percentage collection rates and ensure that the rates are as accurate as possible RECOUP always use the best available estimate of plastics packaging placed on the market (POM) and packaging trends (% growth per year) to compare against the reported collection quantities.

With relatively small increases in collection quantities the collection rates changed from the previous RECOUP Survey from 57% to 58% for plastic bottles and from 30% to 32% for plastic pots, tubs and trays. These combined figures meant the overall figure for rigid plastics packaging collection for recycling increased from 45% to 46%.

With variations to the POM data, the plastic bottle percentage has remained in the high 50 percent for the past 5 years. Changes in the POM data puts some clarity around the plastic pot, tub and tray collection rate, it was around 15% in 2010, 20% from 2011 to 2013, and 30% in 2014 and 2015.

Plastic Bottles	
Consumption Quantity	594,000
Collection Quantity	343,330
Collection Rate	58%

Pots, Tub & Trays	
Consumption Quantity	525,000
Collection Quantity	169,145
Collection Rate	32%

Rigid Plastic Packaging	
Consumption Quantity	1,119,000
Collection Quantity	512,476
Collection Rate	46%

FIGURE 11 – COLLECTION RATES BY PLASTIC FORMAT

PLASTIC BOTTLE USE & RECYCLING

Based on 594,000 tonnes of Placed on the Market (POM) for plastic bottles, an estimated average of 22,000 plastic bottles per tonne, over 26 million households in the UK and the plastic bottle recycling rate of 58% (343,000 tonnes recycled and 251,000 tonnes not recycled), the number of plastic bottles collected and not collected can be calculated.

Plastic Bottles Used

- Over **13 BILLION** plastic bottles are used each year in the UK - that's **36 MILLION** plastic bottles every day – nearly **1.5 bottles per household**

Plastic Bottles Recycled

- Over **7.5 BILLION** plastic bottles were collected for recycling in 2016 - that's nearly **21 MILLION** bottles every day

Plastic Bottles Not Recycled

- Over **5.5 BILLION** household plastic bottles were not collected to be recycled from UK households - that's over **15 MILLION** plastic bottles every day!

Average UK Household

- Average UK household uses nearly **500** plastic bottles a year, but only recycles just under **290** (60%) of them

THIS MEANS ...

- Based on current annual collection increases and nominal increases in consumption levels the number of plastic bottles not recycled could reach over **3.5 MILLION** tonnes by 2030 – that's nearly **80 BILLION**
- Based on the same assumptions there would be even more plastic pots, tubs and trays not recycled – nearly **5 MILLION** tonnes
- If the bottles not recycled in 2016 were placed in a line they would cover nearly 700,000 miles – that would go around the Earth **28 TIMES**

Household Plastic Collection Data

Carbon & Energy Use

There are a number of ways to translate the quantity of plastics packaging collected for recycling into the wider carbon and energy benefits, to put some context around the quantity recycled and to engage the consumer to recycle more.

Carbon

One example is recycling 1 tonne of plastic bottles saves $\frac{3}{4}$ of a tonne of Carbon, which is the equivalent of travelling nearly 2,500 miles in car/taxi/motorcycle (www.recyclenow.com). If the 343,000 tonnes of plastic bottles collected for recycling in 2016 is applied to this fact then this is the equivalent of **travelling around the world nearly 40,000 times**.

Energy

An example that involves energy use is recycling one plastic bottle saves enough energy to power a light bulb for 6 hours (www.BPF.co.uk).

If the 343,000 tonnes of plastic bottles collected for recycling in 2016 is applied to this fact then the plastic bottles would save enough energy to **power all the light bulbs in all the households in the UK for 1 month**.

Reported Quantities from Non-Kerbside Collection Services

There is an increasing trend to collect commingled materials from the kerbside and bring schemes, with bring sites, recycle on the go units and even Household Waste and Recycling Centres (HWRCs) units serviced as part of the kerbside collection route. This means individual material weights for these services are not recorded separately and increasingly plastics collected for recycling are being reported as a plastic total or the total for all dry recyclables (see *Data, Calculations & Reporting* section on page 15 and 16).

Up until the 2014 RECOUP Survey plastics collected via kerbside and bring schemes were reported separately, with 10,000 tonnes allocated from recycle on the go collections as part of the total collected from bring schemes. The quantities collected from bring schemes have also stabilised over time with small decreases reported year on year from 2010-2014.

To reflect the reporting trends from Local Authorities and the relatively stable collection quantities from bring schemes a set quantity of 40,000 tonnes has been allocated to collections from bring and recycle on the go schemes. Some of the bring and recycle on the go quantities reported are in the kerbside collection quantities, and this is accounted for in the reported kerbside calculations.

The 40,000 tonnes have been separated by plastic format using estimated material composition data:

- **70%** (28,000 tonnes) plastic bottles
- **30%** (12,000 tonnes) plastic pots tubs and trays

Composition of Plastics Collected for Recycling

Collections of plastics from Local Authorities in the UK can be categorised into four plastic formats – plastic bottles, plastic pots, tubs and trays, plastic film and non-packaging plastics. However, it has not been possible to collate a dataset that can be considered robust enough for a representative sample for the UK for plastic film and non-packaging plastics (for more information on these plastics see page 32), and therefore the composition of plastics collected for recycling includes plastic bottles and pots, tubs and trays. The ratio of pots, tubs and trays against plastic bottles continues to grow slowly, with around **one third** (33%) made up of pots, tubs and trays, and **two thirds** (67%) plastic bottles.



Household Plastic Collection Data

Plastic Packaging Collections by Nation & Region

Collections of rigid plastics packaging can be reported by UK nation and region.

Plastic Bottles

Collection levels of plastic bottles continue to plateau. There has only been a **9% increase in collection quantities in the last 5 years** since the last leap in collections in 2011, which reported a **9% increase in just one year**.

Overall, the collection quantity of plastic bottles in 2016 consisted of **315,330 tonnes** from kerbside collections and an estimated **28,000 tonnes** from non-kerbside schemes.

The collection data by scheme and nation is shown in Figure 10:

Nation	Quantity of Plastic Bottles Collected 2016 (Tonnes)
UK	343,330
Total Kerbside	315,330
England	261,176
Scotland	25,148
Wales	20,374
Northern Ireland	8,632
Bring & RotG	28,000

FIGURE 12 - QUANTITY OF COLLECTIONS BY NATION - PLASTIC BOTTLES

Kerbside Schemes

There was an increase of **3,170 tonnes** of plastic bottles from kerbside schemes across the UK, increasing from 312,160 tonnes in 2015 to **315,330 tonnes** in 2016.

The highest total kerbside plastic bottle tonnage collected was from the South East of England with **nearly 48,000 tonnes**, which represents **15%** of the total UK plastic bottles collected from kerbside schemes. Figure 11 provides a breakdown of kerbside plastic bottle collection by nation and region.

The data indicates that England accounts for **nearly 83%** of kerbside plastic bottle collections in the UK, with Scotland, Wales and Northern Ireland representing **8.1%**, **6.3%** and **2.7%** respectively.

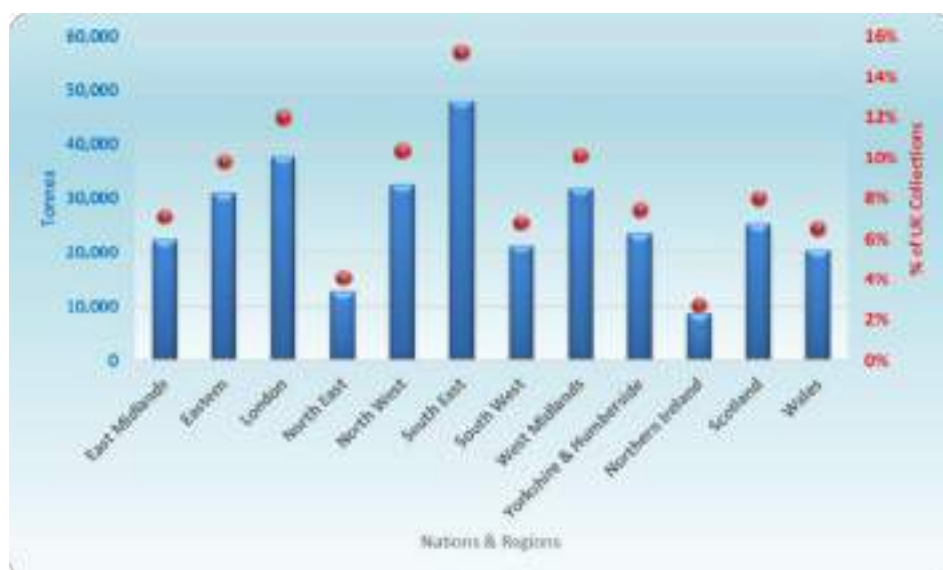


FIGURE 13 - QUANTITY OF KERBSIDE COLLECTIONS BY AVERAGE COLLECTED PER HOUSEHOLD BY NATION & REGION – PLASTIC BOTTLES

Household Plastic Collection Data

Pots, Tubs & Trays

With an overall increase of **35%** in collection quantities in the last 5 years, with existing schemes maturing and new schemes slowly being introduced RECOUP expects plastic pots, tubs and trays to continue to bigger increases in collections than plastic bottles.

This is reflected in 2016, with an overall **6.1%** increase from the previous year. The **169,145 tonnes** collected in 2016 consisted of **147,465 tonnes** through kerbside schemes and an estimated **12,000 tonnes** from non-kerbside schemes.

Nation	Quantity of Plastic Pots, Tubs & Trays Collected 2016 (Tonnes)
UK	169,145
Total Kerbside	157,145
England	139,261
Scotland	11,207
Wales	12,556
Northern Ireland	4,121
Bring & RotG	12,000

FIGURE 14 - QUANTITY OF COLLECTIONS BY NATION – PLASTIC POTS, TUBS & TRAYS

Kerbside Schemes

There was a total increase of **9,680 tonnes** of plastic pots, tubs and trays from kerbside schemes in 2015, increasing from 147,465 tonnes in 2015 to **157,145 tonnes** in 2016.

The highest total kerbside pot, tub and tray tonnage collected was from London with nearly **23,000 tonnes**, which represented **14%** of the UK collections from this scheme type. Figure 13 provides a breakdown of kerbside plastic pots, tubs and trays by nation and region.

England accounts for **over 82%** of total UK pots, tubs and trays kerbside collections, with Scotland, Wales and Northern Ireland, representing **7.3%**, **7.8%** and **2.6%** respectively.

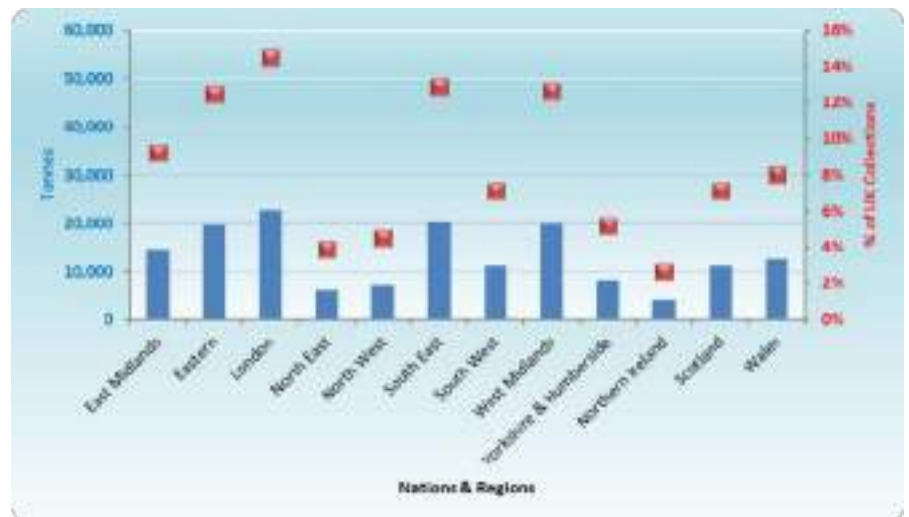


FIGURE 15 – QUANTITY OF KERBSIDE COLLECTIONS BY AVERAGE COLLECTED PER HOUSEHOLD BY NATION & REGION – PLASTIC POTS, TUBS & TRAYS



Household Plastic Collection Data

Plastic Packaging Relative Performance By Nation

The performance of rigid plastic packaging recycling has been tracked by collection rates for many years in the RECOUP Survey, and the 2017 edition has estimated the relative performance based on two measurements:

- Number of households
- Collection rates

Both the bring and recycle on the go quantities are included, and have been split by the proportion (%) of number of households in each nation.

Number of Households

The relative performance of each nation compared to the number of households has been estimated in Figure 14. The figure shows the number of households in each nation and the proportion (%) for each against the total in the UK, which is compared against the proportion (%) of the quantities of plastic bottles and plastic pots, tubs and trays collected in each nation.

Nation	Households		Plastic Bottles		Plastic Pots, Tubs & Trays	
	Number of Households	% of UK Population	% of UK Collections - Bottles	Difference Compared to Number of Households - Bottles	% of UK Collections - Plastic Pots, Tubs & Trays	Difference Compared to Number of Households - Plastic Pots, Tubs & Trays
England	22,063,400	83.3%	82.9%	-0.4%	82.3%	-1.0%
Scotland	2,419,921	9.1%	8.1%	-1.1%	7.3%	-1.9%
Wales	1,302,700	4.9%	6.3%	1.4%	7.8%	2.9%
Northern Ireland	703,275	2.7%	2.7%	0.1%	2.6%	0.0%

FIGURE 16 - RELATIVE COLLECTION PERFORMANCE COMPARED BY NUMBER OF HOUSEHOLDS – BY NATION

The proportions by UK nations from kerbside collections are broadly in line the UK population split, with the data out-performing the averages highlighted. It shows that Wales is estimated to be collecting significantly above the UK average per household.

Relative Performance – Collection Rates

The relative performance of each nation by their collection rates has been estimated in Figure 15. This is based on the plastic packaging Placed on the Market (POM) data (for more information see pages 57 and 58), which is then split between each nation based by the proportion (%) of number of households. This is then compared against the estimated collection quantities for each nation.

England		Wales	
Plastic Bottles	58%	Plastic Bottles	74%
Plastics Pots, Tubs & Trays	32%	Plastics Pots, Tubs & Trays	51%
Collection Rate	43%	Collection Rate	61%

Scotland		Northern Ireland	
Plastic Bottles	51%	Plastic Bottles	59%
Plastics Pots, Tubs & Trays	26%	Plastics Pots, Tubs & Trays	32%
Collection Rate	37%	Collection Rate	44%

FIGURE 17 - RELATIVE COLLECTION PERFORMANCE COMPARED BY PLASTICS PACKAGING PLACED ON THE MARKET - BY NATION

Again, the estimated collection rates in Wales is significantly higher than the other nations.

Household Plastic Collection Data

Average Collection Rates

As covered in the *Plastics Collection Services* section (page 17-23) the number of households that receive a kerbside collection for dry recyclables can be estimated. When combining this estimate with the estimated collection quantities, it is possible to calculate the average kerbside collection rates per household per year (kg).

This estimate was calculated in previous RECOUP Surveys using the average from specific quantities reported for plastic bottles and pots, tubs and trays reported. The methodology is different in the 2017 Survey and it is now estimated by dividing all kerbside collection quantities against number of households in the UK offering a collection service.

Plastic Bottles

Using this calculation, it can be confirmed that where a service is provided the kerbside collection rate of plastic bottles per household is **12.06 kg**.

To provide some context about potential collections per household, if all the plastic bottles consumed in UK households were collected the average kerbside plastic bottle collection rate per household would be **22.42 kg**.

Pots, Tubs & Trays

The average kerbside collection rate material collection rate is **7.78 kg**.

As with plastic bottles, to provide context about potential collections per household, if all the plastic pots, tubs and trays consumed in UK households were collected the average kerbside pot, tub and tray collection rate would be **19.82 kg** per household.

Total Plastics Packaging Collected per Household

The 12.06 kg for plastic bottles and 7.78 kg makes a total average of **19.84 kg** of rigid plastics packaging collected per household from kerbside schemes.

Plastic Film

With **75** Local Authorities reporting they collect plastic film as part of their kerbside recyclables collection service (see page 18), RECOUP continue to try to establish household collections levels in the UK.

As has been referenced in the Methodology for the Survey (see page 15 and 16), many Local Authorities report collection quantities for all recycled materials or all household plastics packaging, and there is no substantial evidence to suggest there is large enough quantities of plastic film in these totals to extract accurate data to represent a UK wide dataset.

What Film is Generally Target Material?

It has been established that the majority of these schemes only accept carrier bags or Polyethylene (PE) bags plastic film, such as:

- Bread bags
- Bags around newspapers and magazines
- Toilet paper and kitchen roll packaging
- Fruit and vegetable bags
- Multi-pack packaging

For many collection schemes what is considered to be dirty plastic film packaging (e.g. heavily contaminated film lids used in ready meals), cling film and biodegradable bags is not target material.

Export Market

RECOUP believe much of the collected household film is baled and exported for reprocessing or used in Energy from Waste facilities. If a Local Authority is considering the collection of film through their kerbside collections, it requires thorough communications throughout the recycling chain for anyone handling, selling or disposing of the material. There are a number of practical barriers which prevent film being compatible with many existing UK collection and MRF systems. It can contaminate established plastic bottle bales and paper lines, and clog sorting equipment. RECOUP supports any activities and research in this area, as long as it does not interrupt existing collection and reprocessing activities.



Household Plastic Collection Data

Plant Pots

Plant pots have not traditionally fitted in the main categories of rigid items of plastic collected from kerbside schemes, although with many plant pots being made from Polypropylene they could be accepted by MRFs that handle plastic pots, tubs and trays from kerbside collections. Of all the polymers in the pot, tub and tray fraction, Polypropylene is the most recyclable and has the strongest values, although colour needs to be considered.

There is evidence that plant pots are being collected as part of some Local Authority plastic pot, tub and tray collections - in the 2015 Survey it was reported **27** Local Authorities stated they include plant pots as part of their kerbside collection scheme, although there was no indication of the quantities collected.

There is confusion about whether plant pots are classified as nonpackaging or not depending on what the pot's function is. The current ruling from the Environment Agency is that plant pots are classified as packaging except when they are sold containing a plant intended to stay in the pot, for example, a house or patio plant. Pots sold separately with no plants included are always classified as a product and not packaging. So, using current classifications, they could be either packaging or non-packaging.



Non-Packaging Plastics

Through monitoring of kerbside collection services by RECOUP it is evident that what can be termed as non-packaging plastics service provision is being offered by a number of Local Authorities. Non-packaging plastics can include plastic items such as small Waste Electrical and Electronic Equipment (WEEE) such as kettles, toasters and MP3 players, and items such as plastic toys or cutlery.

The 2017 RECOUP Survey has reported a total of **34** Local Authorities reported they collect non-packaging plastics as part of their kerbside collections – a reported increase of **13** (62%) in last year. Due to the variable composition of these items it is not possible to report on the plastic that is or could be recovered from this material stream, and is something that could be researched if funding were available.



Kerbside Containers & Frequency

Each Local Authority can have a different approach to how it collects materials from kerbside collections, with different housing types, an urban or rural geographical area and demographics all playing a part.

With consistency of collections a major theme and the ongoing projects, blueprints and charters in place across the UK nations to examine ways to bring greater consistency to household waste and recycling collections, there is a great deal of focus on the opportunities to standardise collection containers and the frequency of collections.

Putting the materials collected to one side, the 2017 Survey looks at two key areas when tackling consistency – the collection containers used and the frequency of collections.

Kerbside Collection Containers

There are three main types of kerbside collection container for dry recyclables – wheel bin, box and bags (disposable and reusable). Questions asked in previous RECOUP Surveys state the most popular kerbside recyclables collection container is a wheel bin. Their increased popularity is a reflection of the increase in commingled collections, the wider adoption of 2, 3 or 4 weekly collections, and the need for larger capacity recycling units.

Combinations of containers are being used to allow for separate collections of specific materials, and this could be particularly important for glass. This could be, for example, to meet input and contractual requirements from MRFs and reprocessors, or to satisfy kerbside conditions where wheel bins cannot be utilised.

In previous RECOUP Surveys there has been a noticeable increase in dual unit combinations to collect dry recyclables, with use of triple unit combinations remaining consistent.

Frequency of Recyclables & Residual Waste Collections

The frequency of the recyclables collection is an important factor in the effectiveness of a kerbside recycling scheme. This can typically range from weekly, alternate weekly with the residual collection, fortnightly, three weekly, or monthly. Although the number of Local Authorities providing each service frequency has been fairly consistent in recent years, there has been a marked increase in alternate weekly services with the residual collection.

Overall fortnightly recyclables collections are most popular, covering **75%** of Local Authority areas with a kerbside plastic bottle collection, with **22%** on weekly collections. Moving to fortnightly recycling collections has had many reported benefits, reaping rewards financially through logistical efficiencies and route optimisation.

Three & Four Weekly Collections

More Local Authorities are investigating and looking to move to 3 weekly collections to reduce costs even further and drive up recycling performance by restricting residual waste capacity.

This could be through 3 weekly and 4 weekly recycling and / or residual collections, based on projected savings. This will depend on the appetite for change within the Local Authority management structure, and the general acceptance by residents to make the change. In the 2016 RECOUP Survey Bury Council cited they achieved their target of **£800,000** of savings and Falkirk Council achieved savings of **£300,000 a year** by changing to three weekly residual collections.

Recycling performance aside, the key driver for this is reducing costs, but this doesn't stop the negative press and feedback from residents despite the obvious benefits. It is the collection frequency of residual waste that has been most controversial in the last two years, which has made local and national headlines, and managing this through planned and effective communications is a key part of making a successful transition.



Kerbside Containers & Frequency

Service Frequency Changes

The 2017 Survey asked whether there has been a change in collection frequency in the past 3 years, which could include recycling and / or residual collections. From over 160 responses the results are shown in Figure 16:

Has there been a change in collection service frequency in the last 3 years?		
Yes	21	13%
No	142	87%

FIGURE 18 - CHANGES IN COLLECTION FREQUENCY IN THE LAST 3 YEARS

The changes delivered very positive results:

- **81%** increased collection quantities
- **57%** increased quality of material
- **100%** reduced costs

Although quality of the material was reduced in nearly half of the Local Authorities, this was off-set by a reduction in costs from all the schemes.

The Future

Although a range of frequency changes have been made it looks like the switch to 3 and 4 weekly residual collections will continue to increase in the same way 2 weekly collections have done.

The 2017 RECOUP Survey asked if Local Authorities were investigating or planning to move to three weekly or four weekly residual collections, with the results shown Figure 17.

Are you investigating or planning to move to three or four weekly residual collections?		
Yes	20	13%
No	135	87%

FIGURE 19 - LOCAL AUTHORITIES INVESTIGATING OR PLANNING TO MOVE TO THREE OR FOUR WEEKLY RESIDUAL COLLECTIONS

RECOUP will continue to monitor the Local Authorities who are looking to change service frequencies.

Changes in the container size for residual waste bins were reported, which can reflect the increase in the range of materials collected for recycling and less general waste produced by households. Changing from a 240 litre unit to a 140 litre was specifically mentioned.



Treatment of Residual Waste

There have been many treatment techniques and technological advances in the waste and recycling sectors in recent years, which are increasingly providing opportunities to recover and use residual waste that would otherwise go to landfill.

There is much debate about how much plastics are in residual waste, but whatever the actual figure is there are large quantities that do not get collected for recycling and end up in the residual waste stream.

With increasing landfill and gate fee costs and valuable recyclable materials in the residual waste stream Local Authorities are increasingly looking at a variety of treatment options to replace or complement existing process routes.

The 2017 RECOUP Survey asked Local Authorities about their understanding of the residual waste stream, the destination of the material, the quality of the recovered material and a look at future trends.

Understanding of the Treatment of Residual Waste

There was a comprehensive knowledge of the treatment of residual waste collected by Local Authorities. From over 180 responses nearly 100% stated they knew about the treatment of the waste:

Do you know the treatment method for residual waste collected in your Local Authority?	
Yes	97%
No	3%

FIGURE 20 - LOCAL AUTHORITIES UNDERSTANDING OF TREATMENT METHOD OF RESIDUAL COLLECTION

Destination of Residual Waste

A selection of the main treatment options were provided - this included landfill, recycling, Energy from Waste (EfW), and Refuse Derive Fuel (RDF). Local Authorities were asked to choose as many options that were applicable for them.

Landfill

It is unsurprising that landfill and EfW were the highest destinations for residual waste. With residual treatment options in their infancy landfill is the only viable option for many Authorities and **96 (28%)** reported this an option for residual waste. The landfill fraction was **6% higher** in 2015, with **more Local Authorities reporting EfW and RDF as treatment options**.

EfW

EfW generates energy (heat and/or electricity) from the treatment process and can provide sustainable and cost-effective energy supplies, albeit the materials are ultimately lost which does not fit with longer term circular economy resource ambitions. With the EfW infrastructure increasing in the UK in recent years **123 Local Authorities (36%)** reported they this as a residual treatment option – up from **34%** in 2015.

RDF & MBT

Refuse Derived Fuel (RDF) is produced by processing facilities and can be used as a fuel. Mechanical Biological Treatment (MBT) is where waste is stabilised through biological treatment through mechanical separation of the recyclable and / or readily combustible material from the remaining organic or lower grade material. An RDF destination was reported by **76 Local Authorities** – a **7% increase** from 2015.

Recycling

The recycling destination which provides the most intriguing result – **45 Local Authorities (13%)** reporting a recycling end destination for their residual waste.

This was verified by similar results from a separate question that specifically asked whether Local Authorities recovered plastics for recycling from residual waste that might otherwise go to landfill or to EfW, with **18%** of nearly 190 Local Authorities stating they were.

What is the destination of the residual waste collected in your Local Authority?	Yes	Yes (%)
Landfill	96	28%
Recycling	45	13%
Energy from Waste (EfW)	123	36%
Refuse Derived Fuel (RDF)	76	23%

FIGURE 21 - DESTINATION OF LOCAL AUTHORITY RESIDUAL WASTE COLLECTIONS

The reporting of material quantities recovered for recycling from the residual stream raises questions. Are they being reported in the household recycling fraction and contributing to recycling quantities and rates? Or are they classified as a landfill fraction but in real terms still finding their way into the recycling stream and included in Packaging Recovery Notes (PRNs) and part of the overall quantity of plastics packaging that is classed as recycled each year? RECOUP has evidence some facilities are reporting these materials as part of the recycling quantities, and we will continue investigate the reporting of this material stream.

Treatment of Residual Waste

Material Quality

RECOUP understands the quality of the plastic recovered for recycling is not to the standard of from a dry recyclable source, but when asked what is the quality of the material collected for recycling from residual waste **100%** of the 27 Local Authorities that responded stating this was acceptable to their specifications.

Future Trends

For those who are currently not treating material from the residual waste stream, there is evidence it will become a more common waste management approach. The use of chemical recycling technologies is also expected to become a consideration in future years. The 2017 RECOUP Survey asked Local Authorities whether they are investigating or implementing the recovery of plastics from residual waste that might otherwise go to landfill or to Energy from Waste (EfW), with the results shown in Figure 20:

Are you investigating or implementing the recovery of plastics from residual waste that might otherwise go to landfill or to Energy from Waste (EfW)?		
Yes	22	13%
No	154	87%

FIGURE 22 - LOCAL AUTHORITIES INVESTIGATING OR IMPLEMENTING THE RECOVERY OF PLASTICS FROM RESIDUAL WASTE THAT MIGHT OTHERWISE GO TO LANDFILL OR ENERGY FROM WASTE

More Residual Treatment

The financial drivers to reduce costs and extract value from the materials in the residual waste stream are clear. With **22 Local Authorities** (18% of responses) reporting they are actively investigating or implementing treatment of their residual waste, RECOUP expects a steady but progressive move towards Local Authorities utilizing a range of treatment options to manage their residual waste stream.

Barriers to Treating Residual Waste

There was **154 Local Authorities** (82%) reporting they were not investigating or implementing the recovery of plastics from the residual stream. There was a general frustration that investigation of different treatment options couldn't be taken further, but the main reasons provided solid reasons why:

"Current treatment – EfW, RDF and MBT - meets requirements"

"Technological barriers to repurpose existing facilities"

"Costs to upgrade facilities"

"Current waste management contracts"

Residual vs Dry Recycling

The variety of treatment options can provide a positive message to the industry and consumers alike about what happens to material that is seen by many to end up in landfill. Although this message must not discourage consumers to recycle at home by separating their own waste materials for recycling from the general waste stream. Good quality material from the dry recycling stream is the most cost-effective treatment option and produces the highest quality material, but recovering valuable recycled materials from the residual stream will increase and become mainstream in how the UK manages waste materials collected from households and commercial premises and businesses.



Recycling Consistency Guidelines

If you are discussing recycling with a member of the public, one of the main questions to be asked is why there is so much inconsistency between different areas about what you can and cannot recycle, and how the items should be presented for recycling (e.g. plastic bottle tops on or off). This has long been an industry debate, and it is often picked up as a major theme for consumers and national media.

Many see this as an unnecessary complexity, but all debate aside, lack of consistency does mean items which are often not recycled is because of a lack of knowledge or confusion. Ways to bring greater consistency to household waste and recycling collections would have tangible benefits.

To back this view Local Authorities are also now focussing equal priority on improving material quality as well as increasing collection quantities (see page 48).

Different Approaches

There are different approaches to recycling collections and consistency in each UK nation.

Scotland The Scottish Government and the Convention of Scottish Local Authorities (CoSLA) agreed in 2015 a Household Recycling Charter to support a more circular economy in Scotland through developing more consistent and coherent waste collection services, leading to both more efficient services and increased quality and quantity of recycling collected.

Wales Wales has an overarching waste strategy document, Towards Zero Waste, and also has its established Collections Blueprint which was launched in 2011. In 2016 an independent review of the Welsh Government's guidance on waste and recycling collections has found it is still the best model for Welsh Local Authorities to follow.

Northern Ireland Northern Ireland Waste Management Strategy, Delivering Resource Efficiency, sets the policy framework for the management of waste in Northern Ireland. It was revised in 2015 with a renewed focus on waste prevention.

England In England, Compiled by WRAP on behalf of DEFRA, guidelines were developed following extensive consultation with the recycling industry that provided a list of household items that can and cannot be recycled, along with how they should be presented by householders.

Collecting the same materials and presenting them in the same way for recycling irrespective of your location would have many benefits:

- Increased recovery rates of target items
- Reduced contamination from non-target items and items not being presented in the ideal way

- Reduced costs to Local Authorities and waste management companies and increased revenue from the collected materials

Agreement between Local Authorities, waste management companies and reprocessors has been reached to do this for key materials and food and garden waste. Key materials include plastic bottles and mixed plastics.

With the importance of awareness and approach to consistency a range of questions were asked to Local Authorities about consistency. There were responses from Local Authorities across the UK, and not just in England.

Awareness of the Guidelines

Question: Are you aware of the Guidelines for Consistency in Material Collections from WRAP?

With nearly 200 responses from Local Authorities, the majority (84%) are aware of the guidelines - 132 of these are from England, 9 from Wales, 6 from Scotland and 5 from Northern Ireland.

Are you aware of the Guidelines for Consistency in Material Collections from WRAP?	
Yes	84%
No	16%

FIGURE 23 - AWARENESS OF WRAP'S GUIDELINES FOR CONSISTENCY IN MATERIAL COLLECTIONS

Plans for Consistency

Are you currently collecting (or planning to collect) the same core set of materials?

A total of 84% of Local Authorities from the nearly 160 responses confirmed they were collecting or planning to collect the same core materials.

Are you currently collecting (or planning to collect) the same core set of materials?	
Yes	84%
No	16%

FIGURE 24 - LOCAL AUTHORITIES COLLECTING (OR PLANNING TO COLLECT) THE SAME CORE SET OF MATERIALS

The Authorities who responded that they were not planning to collect the same core set of materials were asked is there an appetite within your authority to do so, 11 said yes and 13 said no. The reasons that many of the Authorities who stated there was no appetite to collect the core set of materials were financial, plus also infrastructure to provide food waste collections and available end markets for plastic pots, tubs and trays.

Recycling Consistency Guidelines

Are you currently using or are you planning to adopt the instructions for how residents should present their recycling?

69% of nearly 150 responses from Local Authorities stated they were currently using or planning to adopt the instructions for how residents should present their recycling.

Are you currently using (or are you planning to adopt) the instructions for how residents should present their recycling?	
Yes	69%
No	31%

FIGURE 25 - LOCAL AUTHORITIES CURRENTLY USING (OR PLANNING TO ADOPT) THE INSTRUCTIONS FOR HOW RESIDENTS SHOULD PRESENT THEIR RECYCLING

The Authorities who responded they were not planning to collect the same core set of materials were asked is there an appetite to do so and 16 said yes and 29 said no. The main reasons cited were their current guidelines work effectively or there are conflicting messages from information given by their waste management provider.

Communicating about Reducing Contamination & How to Present Plastics for Recycling

Do you communicate with householders on the importance of reducing contamination and / or how to present their plastics for recycling?

Over 90% of over 170 Local Authorities who responded to this question reported they communicate with householders on the importance of reducing contamination and / or how to present their plastics for recycling. When planning communication to their residents there is now a priority on improving material quality as well as increasing collection quantities.

Do you communicate with householders on the importance of reducing contamination and / or how to present their plastics for recycling?	
Yes	93%
No	7%

FIGURE 26 - LOCAL AUTHORITIES COMMUNICATING WITH HOUSEHOLDERS ON THE IMPORTANCE OF REDUCING CONTAMINATION AND / OR HOW TO PRESENT THEIR PLASTICS FOR RECYCLING

A number of channels were used by Local Authorities to communicate to their residents about this. Leaflets and websites were most common, with digital channels and face-to-face engagement also heavily used. Other methods used included:

- Bin stickers
- Vehicle livery
- Local radio
- Council magazines
- School visits
- Targeted letters to specific areas and households

How is the communication delivered?	
Leaflet	27%
Website	28%
Digital	18%
Face-to-Face Engagement	22%
Other	5%

FIGURE 27 - HOW COMMUNICATIONS WITH HOUSEHOLDERS ON THE IMPORTANCE OF REDUCING CONTAMINATION ARE DELIVERED



Recycling Consistency Guidelines

Using the Recycling Guidelines for consistency in material collections from WRAP do Local Authorities communicate about specific plastic items?

How are the guidelines used in communications to householders? The number of Local Authorities that responded to each instruction to residents is included in Figure 26.

Using the Recycling Guidelines for consistency in material collections from WRAP do you communicate about	Yes	%
Plastic Bottles		
Empty and Rinse	146	18%
Lids	116	14%
Flatten / Squash	114	14%
Plastic Pots, Tubs & Trays		
Rinse	115	14%
Remove Plastic Film Lids from Food Packaging	82	10%
Other Plastics Packaging		
Separate Cardboard & Paper from Plastic Packaging and Recycle Separately	67	8%
Do Not Include Plastic Film (Carrier Bags, Plastics Wrapping Film e.g. Bread Bags & Bubble Wrap)	116	14%
Do Not Include Expanded Polystyrene (e.g. Packaging Inserts)	76	9%

FIGURE 28 - WHAT INSTRUCTIONS LOCAL AUTHORITIES COMMUNICATE ABOUT

There is an emphasis on **emptying and rinsing plastic bottles (146 Local Authorities)**, with communications on **lids (116)** and **flattening and squashing bottles (114)** also included by many Local Authorities. Note, there was no breakdown of what messages were communicated about whether to include lids when placing plastic bottles for recycling, but in the context of the questions it is assumed the majority have messages to leave lids on.

There is a strong emphasis on **rinsing plastic pots, tubs and trays** – there are less mentions for these instructions than for plastic bottles, but this is to be expected due to around 25% not providing a kerbside collection service for this plastic format in the UK.

Removing film lids from plastic food packaging (82) and **removing paper from plastic packaging and recycling them separately (67)** are also included by many Local Authorities.

Communications about **not including plastic film (116)** and **expanded polystyrene (76)** are used, although it should be noted RECOUP are not aware of any kerbside collections services that include expanded polystyrene as a target material.



Recycling Consistency Guidelines

Understanding the Consistency Guidelines

Local Authorities were also asked whether they would like to be contacted by WRAP to understand the guidelines – **18** Local Authorities said yes, and **142** said no – so, for most, the guidelines do not require additional follow up.

The Consistency Guidelines

The guidelines for plastic bottles and mixed plastics are shown below.

Plastic bottles

Yes please

All clear and coloured plastics bottles from around the home:

- Detergent and soap bottles
 - Remove any pumps from the bottle and dispose of these (they are currently not recyclable).
- Cleaning product bottles (e.g. bathroom cleaners, bleach etc.)
 - Triggers can be left on to be recycled.
- Skin care product bottles.
- Shampoo/shower gel bottles.
- Fizzy and non-fizzy drinks and water bottles.
- Milk bottles.
- Ready-to-use plant food and pesticides bottles (check the label).

Please remember

- Empty and rinse items, squash and replace lids/tops.
 - left over foods or liquids can contaminate other recyclables;
 - squashing will mean more space in the recycling bin/box;
 - if bottles contain liquid they might not be recycled, as they go through the automated sorting process (the extra weight stops the bottle being pushed into the correct recycling stream). Liquid can also damage the machinery and contaminate other recyclables.
- Leave on labels: these will be removed in the recycling process.

No Thanks

- Plastic bottles containing chemicals (e.g. anti-freeze).
 - Strong chemicals that are highly poisonous are hazardous to staff and can damage the recycling equipment. Check the bottle for disposal instructions.
- Black plastic bottles – sorting equipment cannot detect the colour black and therefore it is not recycled.
- Anything that is NOT a plastic bottle.
- Anything that looks like a pot, tub, tray or tube.

Recycling Consistency Guidelines

Mixed plastics (plastic bottles and plastic pots, tubs and trays)

Yes please

Plastic pots, tubs and trays:

- Pots (e.g. yogurt, soup, etc.).
- Tub (e.g. margarine, ice cream, etc.).
- Trays / punnets (e.g. raw meat or ham trays; take-away trays; fruit /veg trays)
 - Remove any film lids and absorbent pads in the bottom of trays, and put these in your general rubbish.
- Chocolate and biscuit tubs and trays.
- Other clear plastic packaging.
- Brown plant pots.

Plastic bottles:

All clear and coloured plastic bottles from around the home, including:

- Day-to-day cleaning product bottles (e.g. bathroom cleaners, washing up liquid, bleach):
 - remove pumps and dispose of these (these are currently not recyclable); and
 - triggers can be left on to be recycled.
- Cosmetics bottles (e.g. shampoo, shower gel).
- Ready to use plant food and pesticide bottles (check the label).
- Drinks bottles (e.g. juice, squash, milk).

No thanks – put these in your general rubbish

- Black plastic – sorting equipment cannot detect the colour black and therefore it is not recycled.
- Crisp and sweet packets/wrappers.
- Film lids from the pots or trays.
- Laminated pouches (e.g. cat food/coffee pouches that spring back when you try and scrunch them. Pouches are currently not recyclable).
- Plastic toys (these are currently not recyclable).
- Medicine packs (e.g. headache pills, etc.)
- Toothpaste tubes.
- Expanded polystyrene e.g. packaging inserts.

- Plastic bottles containing chemicals (e.g. anti-freeze).
 - Strong chemicals that are highly poisonous are hazardous to staff and can damage the recycling equipment. Check the bottle for disposal instructions.

No thanks – but check for recycling at grocery stores:

- Carrier bags/plastic wrapping film e.g. bread bags and bubble wrap.

Please remember:

- Rinse food packaging – left-over food residue can contaminate other recyclables. A quick rinse will do (if packaging has contained uncooked meat rinse carefully and wash hands).
- Empty and rinse bottles, squash and replace lids/tops.
 - if bottles contain liquid they might not be recycled as they go through the automated sorting process (the extra weight stops the bottle being pushed into the correct recycling stream). Liquid can also damage the machinery and contaminate other recyclables.
 - bottles can be squashed to give more space in the recycling bin/box.
- Labels and bottle tops can all be left on – but plastic film must be removed and put in the general rubbish bin.
- Separate any cardboard and paper from plastic packaging and recycle separately.

For more information see

www.wrap.org.uk/content/consistency.

Commercial Collections & Service Providers

Local Authorities can manage or sub-contract the delivery of its household waste collection and management and street cleaning services to a third-party provider. Offering a commercial collection service to commercial properties and businesses can widen the local collection service provision as well as generating income that can be reinvested into other core Council services.

It is likely most commercial services will include recycling collections, with plastics being a key material, certainly for household-like plastics from employees eating and drinking at their work premises.

Operating commercial recycling services can be beneficial and revenue from collected dry recyclables, including plastics, can provide valuable income. However, there can be drawbacks. For example, collections can result in higher levels of contamination than household material, and thus complicate collection logistics to keep the two material streams separate. They also require ongoing and skilled resources and budget to manage the service.

Service Provision & Revenue

The 2017 RECOUP Survey asked Local Authorities whether they provided a collection to commercial properties or businesses, and from nearly 170 responses to this question the results show more than half Local Authorities in the UK who responded offer a service (see Figure 27):

Looking at quality of the material collected for recycling a surprisingly high 96% stated the quality of the collected material was acceptable, which provides valuable insight that well-run commercial operations can provide a good quality material stream.

Do you provide a commercial collection to commercial properties or businesses as distinct from householders		
Yes	93	56%
No	72	44%

FIGURE 29 - LOCAL AUTHORITIES PROVIDING A COMMERCIAL COLLECTION SERVICE

Barriers to Offering a Service

There was extensive feedback about why a commercial collection scheme was not provided and there was a wide range of responses, including:



All valid reasons given individual circumstances of specific Local Authorities, although the reasons cited as the main barriers a commercial service are not being considered were costs and lack of internal resources.

Although there are barriers to introducing a commercial recycling collection, if there is appetite to diversify and offer a service, the evidence here points that a good quality material can be achieved.

Commercial Collections & Service Providers

Waste Management Service Providers

There is also an increasing trend for Local Authorities to manage their own waste management services in-house instead of subcontracting to a third party waste management provider.

The 2017 RECOUP Survey also asked Local Authorities who their waste service provider were – the results were:

- **51%** - Local Authority (in-house)
- **29%** - Amey Cespa, Biffa, Suez, Veolia, Viridor
- **20%** - Others, including FCC, Kier, Shanks and other locally based providers

The waste collection and management sector remains a very competitive and demanding sector to operate in, with ever increasing demands being made of both Local Authorities and waste management providers to offer more value-for-money services.

Local Authority budgets continue to be squeezed. The 2017 RECOUP Survey can confirm from nearly 160 responses **51%** of Local Authorities in the UK received budget cuts for providing waste and recycling collections or delivery of communications to householders about waste and recycling in 2016. This represents a significant change to the results of the same question in the previous year - this figure was **13%** in 2015.

Whereas a contract may have worked for all parties at one stage, many contracts are now being reviewed and some particularly high-profile ones being terminated and being retendered for. Local Authorities are increasingly looking in-house for solutions to save budgets and reduce core services from being cut or scaled back, and the significant challenges to providing collection provision will continue.



Recycled Plastic Markets

Plastics packaging collected to be recycled continues to provide income generation, employment and business opportunities for Local Authorities and waste management companies.

As with all material commodities, the value of plastic collected for recycling changes due to market conditions. Regardless of values of collected plastics, with landfill and Energy from Waste costs, the business case to recycle is proven.

Value of Plastic Bottles Collected for Recycling

The highest values for collected plastics are when plastic bottles are sorted into their main fractions – clear and light blue PET, natural HDPE and mixed HDPE – with coloured PET and mixed bottles retaining relatively stable but lower prices.

Plastic bottles mainly consist of PET drinks bottles and HDPE milk bottles, but there are an increasing amount of other bottle types such as DIY, bathroom and cosmetic products, which can be made from PP, coloured HDPE and PET, and also PVC.

Using the Lets Recycle material price index (www.letsrecycle.com) 1 tonne of mixed plastic bottles typically attracted an average price of **£70 per tonne** in 2016 – this was £79 per tonne in 2015, an average reduction of 11%. This represents the following data:

MIXED PLASTIC BOTTLES

- 343,000 tonnes of plastic bottles collected for recycling represents a potential total value of around **£24 million**
- Real prices for 2016 ranged from £30-£120 per tonne resulting in a total value range of **£14m-£34m**

Sorted Plastic Bottles

These prices are for mixed plastic bottles, which can vary depending on the levels of clear and light blue PET and natural HDPE bottles. To give a comparison of the prices for a tonne of clear PET and natural HDPE bottles, according to *Lets Recycle*, average prices ranged from:

PET

- Clear and light blue PET – £80-£127, with an average of **£104**
- Coloured PET - £43-£53, with an average of **£48**

HDPE

- Natural HDPE - £293-£336, with an average of **£315**
- Mixed HDPE - £125-£143, with an average of **£134**

This demonstrates the potential additional value of sorted plastic bottles, although of course this needs to be balanced against the additional sorting costs incurred to achieve these higher values. As an example, the average values of the HDPE plastic fractions can be compared to the price of a bale of mixed plastic bottles:

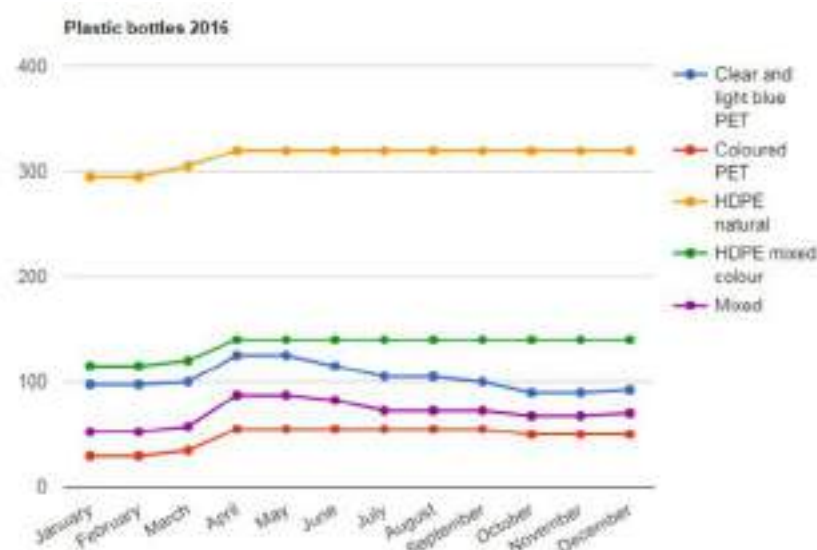


FIGURE 30 - AVERAGE VALUES OF PLASTIC BOTTLE FRACTIONS (SOURCE: LETS RECYCLE)

Recycled Plastic Markets

The Value of Plastic Bottles Not Recycled

An estimated **251,000 tonnes** of plastic bottles from UK households were not collected for recycling in 2016. This provides clear incentives to collect this material from UK households:

- Using the average **£70** per tonne mixed bottle value, the unrecycled bottles would have a potential value to plastic recyclers in 2016 of over **£17m**
- Based on the median landfill tax and gate fee for non-hazardous material of **£101 per tonne** (based on an average landfill tax for 2015 of £86.10 and the median MRF gate fee in the current survey is £15 per tonne – source: *WRAP Gate Fees Report 2017*) these bottles would cost over **£25m** to dispose of

It should be noted a quantity of bottles disposed of in the residual fraction will go to Energy from Waste, but processing costs have been assumed to be in line with landfill costs for the purposes of this calculation.

Although the following calculation would be providing an unlikely view of the financial implications, if there was a 100% bottle collection rate, and by combining the potential value of the currently un-recycled plastic bottles and the landfill costs, there would be an additional **£43m** benefit to disposal Authorities in the UK versus the current situation today. This is only on the basis the extra material is integrated into the existing collection service at no extra cost.

Value of Plastic Pots, Tubs & Trays Collected for Recycling

Although collections for pots, tubs and trays have increased significantly in recent years, their inherent recyclability and end market options mean they are not generally attracting positive values.

The value of pots, tubs and trays depends primarily on the level of contamination and Polyolefin content (PP and PE plastics). As a mix the pots, tubs and trays does not attract positive values but may still be favourable compared to landfill or EfW. Any positive prices reported are likely to refer to material that also includes plastic bottle content, which inflates the value, or are subjected to several appropriate sorting processes to extract the valued sorted Polyolefin plastics, particularly PP.

It is not realistic to put a potential figure on the benefit of collecting the 525,000 tonnes entering the household waste and recycling systems. With the values not yet realised for the 169,000 tonnes of pots, tubs and trays that were collected for recycling in 2016, some examples of the benefits of avoiding landfill for this material are:

- If all the estimated **525,000 tonnes** of pots, tubs and trays consumed were disposed of in 2016, based on the median landfill gate fee for non-hazardous material of **£101 per tonne**, the disposal costs would be nearly **£54 million per annum**
- If the estimated **356,000 tonnes** of pots, tubs and trays that were not collected for recycling in 2016, based on the median landfill gate fee for non-hazardous material of **£101 per tonne** would incur disposal costs of nearly **£36 million per annum**
- Therefore, the actual cost of disposal is somewhere between **£36m** and **£54m**.

As with plastic bottles, processing costs for Energy from Waste have been assumed to be in line with landfill costs for the purposes of this calculation.



Recycled Plastic Markets

End Markets - UK or Export

Both domestic and export markets are important to provide outlets for the collected plastics. End markets are referring to where plastics are reprocessed into granules, pellets or flakes in preparation for use as a raw material in second life applications.

According to the National Packaging Waste Database (NPWD), **63%** of the **1,015,226 tonnes** of plastic packaging recycled in 2016 was exported – **639,592 tonnes** to export and **375,634 tonnes** to domestic markets.

It is not possible to audit market flows and precise end destinations, especially where intermediate traders are used.

Struggling to Find End Markets?

The 2017 Survey has received many comments about the volatility of the markets and a stable and reliable outlet for collected plastics is key to move the material, avoid landfill costs, and ideally generate revenue.

Plastic Format	Yes	No
Bottles	2%	98%
Pots, Tubs & Trays	8%	92%
Film	22%	78%
Non-Packaging Plastics	20%	80%

FIGURE 31 - LOCAL AUTHORITIES STRUGGLING TO FIND END MARKETS

Plastic Bottles Strong UK and export markets meant only **2%** of Local Authorities struggled to find end markets for plastic bottles - the real issue with plastic bottles is getting the best price and the quality of material sold to markets.

Pots, Tubs and Trays Only **8%** of Local Authorities struggled to find a market, however, it is expected that a significant proportion will be intended to be sold as a lower grade of plastic bottles, and baled together and exported to non-EU markets for sorting and reprocessing. UK developments in plastic sorting infrastructure are also helping to provide auditable markets for this fraction.

Film and Non-Packaging Plastic There are slightly reduced fractions for plastic film (**22%**) and non-packaging plastics (**20%**) struggling to find a market and it is expected these fractions are mainly sold to lower grade export markets.



Consumer Communications

Effective consumer communications are central to an effective recycling collection scheme to both increase collection quantities and lower contamination.

The 2017 RECOUP Survey explores a number of key areas about how Local Authorities are approaching their communications, and the ongoing challenges that surround engaging their residents. The results feed directly into waste management and resource strategy development and activities through a range of consultations, advisory groups including on-going government led work. With much debate about increased funding through Extended Producer Responsibility (EPR), the results about communications to householders are particularly relevant.

There is also an update about the future of the national plastics recycling initiative, Pledge 4 Plastics, and Local Authority interest and the communication channels that could be used.

The challenge to communicate effectively with residents about what they should recycle and how to present their packaging for recycling is increasingly challenging.

There is ongoing national media coverage to consumers that can undermine recycling and use of packaging with messages such as high contamination levels, exporting material and littering of packaging in our natural environment. 'Recycling' and 'packaging' is often an easy target and poorly informed articles can have a negative effect and disengage the consumer to make the effort to recycle effectively.

In the 2017 RECOUP Survey a range of questions were asked to Local Authorities about consumer communications, there were between 150 and 210 responses depending on the question.

What Local Authorities Say About Communications to their Householders

Local Authorities planning a communication to householders about plastics recycling, either as an individual authority or part of a wider county or partnership campaign

The reason to run a communication about plastic recycling could include increasing capture of target plastic material and introducing a new service.

Is your Local Authority planning a communication to householders about plastics recycling?		
Yes	74	37%
No	127	63%

FIGURE 32 - LOCAL AUTHORITIES PLANNING A COMMUNICATION TO HOUSEHOLDERS ABOUT PLASTICS RECYCLING



Consumer Communications

If no Plastics Recycling Communication is Planned to the Householders what are the Reasons?

Many Local Authorities provided their reasons if no plastics recycling communication was planned to householders.

If no communication is planned to the householders what are the reasons?	Yes (%)
Cost and Resources	32%
Focus on Communications for all Dry Recyclables	57%
Other	11%

FIGURE 33 - REASONS FOR LOCAL AUTHORITIES NOT PLANNING A COMMUNICATION TO HOUSEHOLDERS ABOUT PLASTICS RECYCLING

- The main reason was focussing on the collection of all dry recyclables instead of targeting one specific material (57%), but cost and resources are always prevalent reasons (32%).
- The 11% who stated other reasons:

Not Planning for the Future
 "Communications have already been delivered and there were currently no plans for future campaigns"

Food Waste "Principle focus this year will be on food waste"

Service Changes "Big service change taking priority"



Are Local Authorities Planning to Involve Retailers in Communications to Householders?

One of the opportunities for Local Authorities is to partner with retailers or businesses to deliver sponsored or shared consumer communications.

- Only 6 Local Authorities reported they were involving retailers. This is something RECOUP see as offering good opportunities, particularly with the more proactive retailers, and are willing to support and co-ordinate future proposals and activities.

Is the focus on communications around increasing collection rates, reducing contamination, or both are equal priorities?

With rejected recycling loads at MRF to negative press around the quantities of material collected for recycling that have to go to landfill or energy recovery destinations, the focus has shifted towards improving quality as well as increasing collection quantities.

From the comments in the 2016 Survey increasingly it is now to improve the quality of the material placed for recycling. This is two-fold, to reduce non-target material, but also to provide information and influence the consumer to present the plastics in the right way. This could include removing residue food from the packaging, rinsing, or keeping the tops on plastic bottles, depending on the needs of the waste management chain handling the material (see the *Recycling Consistency Guidelines* section from page 37-41).

Is the focus on communications around increasing collection rates, reducing contamination, or both are equal priorities?	Yes	Yes (%)
Increasing Collection Rates	17	11%
Reducing Contamination	16	10%
Both are Equal Priorities	120	79%

FIGURE 34 - FOCUS OF COMMUNICATIONS ON INCREASING COLLECTION RATES AND / OR REDUCING CONTAMINATION

- 79% of Local Authorities are targeting both objectives to increase collection rates and improve quality
- In addition, with 11% focussing on increasing collection rates and 10% on reducing contamination this is evidence Local Authorities have a two pronged approach to their communication to householders

Consumer Communications

Do Local Authorities have discussions with their waste management service provider or MRF about the quality of materials collected and changes that could be made to collection or communications to improve quality?

Having open dialogue and a positive partnership between Local Authorities and their waste management provider or MRF can provide insight into what the main contaminants are, the locations where they are being collected from and how this can be improved. There are also examples where the waste management providers and MRFs have funded communications campaigns.

Do you have discussions with your waste management service provider or MRF about the quality of materials collected and changes that could be made to collection or communications to improve quality?

Yes	69%
No	31%

FIGURE 35 - LOCAL AUTHORITIES DISCUSSIONS WITH WASTE MANAGEMENT PROVIDER OR MRF ABOUT QUALITY OF MATERIALS COLLECTED FOR RECYCLING

- **69%** of Local Authorities said they have had discussions with their waste management provider or MRF about the quality of materials
- There was extensive information provided by Local Authorities about the discussions and activities with their waste management companies or MRF
- There was **frustration** about lack of engagement with waste management providers and MRFs, and there are opportunities for improved dialogue and closer working relationships
- There was also a wide range of **proactive and positive actions** that took place to improve quality, including a MRF provider funding a school's campaign

Funding School Campaign! "Our MRF provider has spoken to our collection crews about contaminates, and is funding a campaign to inform school children about how to recycle right."

Crew Engagement "Getting collection crews fully on board with checking bins and issuing contamination tags - more crew engagement has led to increased number of rejected bins and reduced contamination at the MRF"

Sampling "Introduced our own sampling of mixed dry recycling to be able to ascertain the main contaminants for effectively communicating the issues back to the householder"

High Contamination Area "Contractor provides information on high contamination areas, these are then targeted for face to face education/awareness visits"

Regular Meetings "Regular contract monitoring meetings, communication schemes are shared with the MRF for information"

Monitoring "We have carried out a trial quality check for the recyclable material at the transfer station and this has reduced the contamination found at the MRF. We have also increased the monitoring of contaminated kerbside bins found by the collection crews. Persistent offenders have received letters and some have been visited by recycling officers to explain the collections scheme and the importance of recycling."

Regular Reinforcement "Contamination reduction messages have been successful it would seem but need regular reinforcement"

Working Closely "We work closely with our contractor to understand how the changes and communications could influence the materials, and to ensure that the MRF technology is compatible or requires upgrading to facilitate any proposed changes."

Consumer Communications

Has your Local Authority received budget cuts to deliver communications to householders about waste and recycling?

Consumer communications to householders save Local Authorities budget by reducing the landfill and gate fee charges from target recycling ending up in the residual collections, or reducing contamination levels in the material that is placed for recycling. There is evidence that budget spent on communications provides value for money and reduces overall spend rather than increasing it.

- In 2016 nearly 160 responses **51%** of Local Authorities in the UK received budget cuts for providing waste and recycling collections or delivery of communications to householders about waste and recycling. This represents a significant change to the results of the same question in the previous year - this figure was **13%** in 2015.
- Although it is not clear whether the cuts were in collections, communications, or both, this assumes there was a communications budget allocated before any budgets cuts.
- RECOUP have been made aware that communications are being **scaled back and even stopped altogether**, and this is further evidence this is happening on a larger scale.
- Financial investment is needed or recycling rates will continue to stagnate and provide progressively low-quality material.

How do Local Authorities Refer to Non-Bottle Rigid Plastic Packaging?

Non-Bottle rigid plastic packaging is often referred to in the waste industry as Plastic pots, tubs and trays, but there are many different approaches when communicating this plastic format to consumers.

- The most popular way to describe non-bottle rigid plastic packaging to householders is to use a combination of plastic format (pots, tubs and trays) and product use descriptions (e.g. margarine tubs, yoghurt pots, etc) – the **59%** represents an increase of 10% from the previous year.
- **22%** use plastic format only (e.g. plastic pots, tubs and trays) – a 12% reduction from 2015 represents a continuing sharp reduction in previous years.
- **11%** use product descriptions only.
- **6%** use a combination of polymer type and plastic format and **2%** use the polymer codes only - RECOUP do not recommend using as few people refer to the polymer type when deciding to place an item for recycling or not, and it causes confusion as one polymer code can be used across many packaging types e.g. PET bottles and PET trays, or it is not used at all.

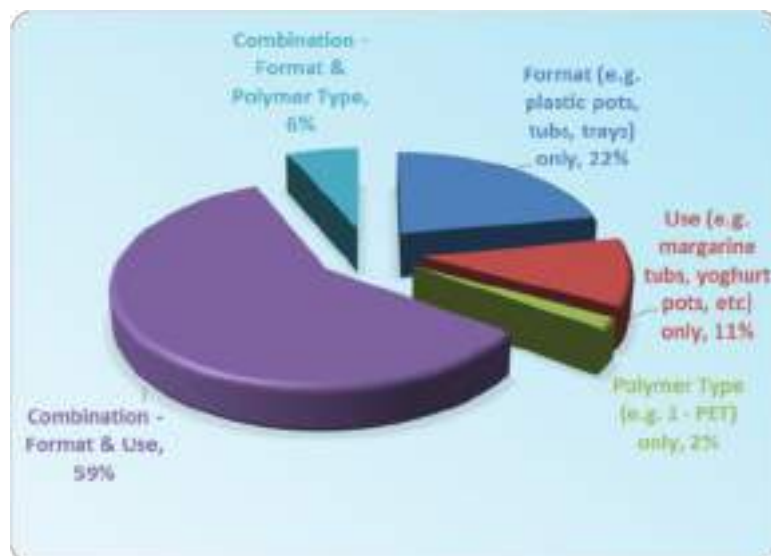


FIGURE 36 - HOW LOCAL AUTHORITIES REFER TO NON-BOTTLE RIGID PLASTICS PACKAGING

Consumer Communications

Barriers to Effective Plastic Recycling

Although the focus is plastics recycling, one material cannot be looked at in isolation and there are common challenges across all material types. Reduced budgets reducing options and the effectiveness of communications. A successful communications campaign needs to be a long-term programme to continually emphasise recycling messages through different communication channels.

A few of the main issues reported in the 2017 RECOUP Survey by Local Authorities all over the UK are included below.

Commit to Increased Tonnage?

“It is difficult as a Local Authority to commit to communication projects because sponsors are requesting that Local Authorities commit to improvements in tonnage or a decrease in the level of contamination and provide proof that this has occurred. These factors are often beyond the control of the Local Authority and dependant on the public, therefore the Local Authority is hesitant to commit to these projects where it may be unable to meet the requirement to prove change.”

Do Residents Read the Material?

“It is fairly easy for Local Authorities to communicate with residents, however it is difficult to get the residents to read the material issued.”

A Text Service

“We use text service that sends our communications to those residents whose details we have captured. We use Council run events as another way of capturing our target audience.”

Cancellation of Council Newspaper & No Recycling Team

“Communications is very limited due to cancellation of Council newspaper, it is now very difficult to put messages out to residents. There is also no longer a recycling team.”

Small Budget

“We only have a budget for pages in the Council Tax booklet so communication is through the Council's magazine, Twitter, Facebook or news releases. The article in the next magazine will be about the plastics that our MRF will accept.”

Black Plastics

Many Authorities report they “still have big issues with not collecting black plastics”. RECOUP are leading a cross sector group that is committing to providing solutions to the recycling of black plastic packaging.

Consumer Communications

Pledge 4 Plastics Resources

RECOUP lead the national plastics recycling initiative, Pledge 4 Plastics, and has continues to provide resources and act as a catalyst to support plastics recycling consumer communications across the UK. It is supported by all RECOUP members.

The Pledge 4 Plastics consumer message is based around how plastics packaging can be transformed into a wide range of products and **recycled plastics are all around us**.

Resources for your plastic recycling communications are available for **FREE** through the Pledge 4 Plastics Resource Library (www.pledge4plastics/resourcelibrary), and we encourage as many Local Authorities and businesses as possible to use them!

Secret Life of Plastics Animation

The Pledge 4 Plastics animation showcasing how everyday household plastics packaging can be transformed into new products and the diverse range of things they can become. It shows a family recycling everyday plastic items as they go about their day, with the items making unexpected transformations.

With over **250,000 views** and a **social media reach of over 1 million** and national media coverage, the animation and the associated resources is still available for all Local Authorities to use:

- The main **60 second** video shows the recycling transformations of plastic bottles, pots, tubs and trays
- A **30 second** 'bottles only' version
- Plus ... **6 second** short video Vine clips, which can be added to social media channels to give people a taster of the video

These are supplemented by a **template press release** which can be filled in to make it more relevant to your local area and then be published on Council websites through local media outlets; **social media posts**; **screen grab images** which can also be shared on social media; and **communications guidance** to show how to make the most of animation.

Plastics Recycling Resource Pack

In 2016 Pledge 4 Plastics and the multi-material recycling campaign in England, Recycle Now, worked in partnership to produce a new consumer communications resource pack.

The pack is aimed at supporting Local Authorities and businesses by providing a comprehensive set of resources needed to run a successful consumer communications campaign all in one place. It includes all the key plastic recycling resources from Pledge 4 Plastics and Recycle Now, and so it promotes an aligned and consistent set of resources for plastics recycling in the UK. It includes digital resources, posters, pull-up banners, leaflets, and videos. The materials can be customised by partners, allowing them to add their own plastic recycling collection information.

In addition to the Plastics Recycling Resource Pack being available on the Pledge 4 Plastics Resource Library it is also available on the Recycle Now website

(<https://partners.wrap.org.uk/assets/9933/>).

New Resources

The Pledge 4 Plastics visual resources are based around nine transformation examples. New recycling examples are being continually developed and there will be more examples coming soon showing exciting new transformations to engage consumers about the possibilities of recycling.

We will also be updating the Plastics Recycling Resource Pack, which will include all the new resources available for Local Authorities and businesses to use.

pledge 4 plastics



Consumer Communications

Pledge 4 Plastics Questions in the 2017 Survey

A number of questions were asked in the 2017 RECOUP Survey about the interest in running a Pledge 4 Plastics campaign and how this could be delivered.



Would Local Authorities be Interested in a Match Funded Arrangement with Pledge 4 Plastics to Deliver Communications to Householders?

Though our member network and various industry and Government meetings and consultations RECOUP are looking at funding streams to partner with Local Authorities to deliver communication campaigns. This could be using a Pledge 4 Plastics titled campaign or focussing on different approaches to target specific plastic products (e.g. bleach bottles or food trays) using a variety of different messages and communication channels.

A large number of Local Authorities stated they are interested in a match funded arrangement to deliver communications to residents.

Would you be interested in a match funded partnership with Pledge 4 Plastics to deliver communications to your residents?	
Yes	45%
No	55%

FIGURE 37 - LOCAL AUTHORITIES INTERESTED IN A MATCH FUNDED PARTNERSHIP WITH PLEDGE 4 PLASTICS TO DELIVER COMMUNICATIONS TO THEIR RESIDENTS

Communication Channels That Interest Local Authorities

A further question was asked about communication channels that would particularly interest them and there was a wide range of responses with a focus on digital channels (31%), community engagement events (20%) and written channels (17%), with 20% that would consider any of the options provided.

What areas would particularly interest you?	
Written Channels	17%
Digital Channels	31%
Outdoor Advertising	6%
Community Engagement Events	20%
Radio Adverts	6%
Any of the Above	20%

FIGURE 38 - CHANNELS OF INTEREST TO LOCAL AUTHORITIES TO DELIVER A PLEDGE 4 PLASTICS COMMUNICATIONS TO THEIR RESIDENTS

RECOUP continue to promote the opportunities that exist to both industry and Government to engage householders through consumer communications, and combining dialogue with Local Authorities in 2017 and those who responded to the RECOUP Survey **over 100 Local Authorities would like to partner to deliver a match funded Pledge 4 Plastics campaign.**

Plastics Recycling in the EU

The European Commission proposed an ambitious Circular Economy Package, which includes revised legislative proposals on waste to stimulate Europe's transition towards a circular economy which will boost global competitiveness, foster sustainable economic growth and generate new jobs.

It remains unclear whether this package will be agreed and adopted for the EU, let alone if the UK will adopt any package and how formal this agreement will be. It remains unclear how Brexit will impact the economic, business and legislative developments in the UK and what direction our waste and circular economy policies will be directed.



The proposals set out targets for reduction of waste, waste management and recycling to 2030 with a separate action plan to monitor progress.

The most reliable source for the analysis of European plastics production, demand and waste data is *Plastics - the Facts*. This is produced by:

- PlasticsEurope, the Association of Plastics Manufacturers in Europe - a trade Association of Plastics Manufacturers in Europe which includes more than 100 member companies, producing over 90% of all polymers across the EU (www.plasticseuro@pe.org)
- EPRO, European Association of Plastics Recycling & Recovery Organisations - EPRO is the association of national organisations responsible for organising and promoting plastics recycling and recovery in Europe

(Note the EU refers to the EU 28 plus Norway and Switzerland).

The latest data version is the 2016 version, which uses data from 2014. This is due to be updated in the coming months and RECOUP will update the Survey report when the 2017 version is available.



Plastics Recycling, Energy Recovery & Landfill – All Plastics

Plastics – The Facts reported in 2014 there was **25.8 million tonnes (mt)** of post-consumer plastics were produced - this is all plastics (construction and demolition, automotive, etc) and not just packaging.

Figure 36 shows the recycling, energy recovery and landfill rate across the EU. The recycling figure is based on “input quantities into recycling facilities”. Energy recovery refers to creating energy from a process of incinerating the waste materials.

Plastics Recycling in the EU

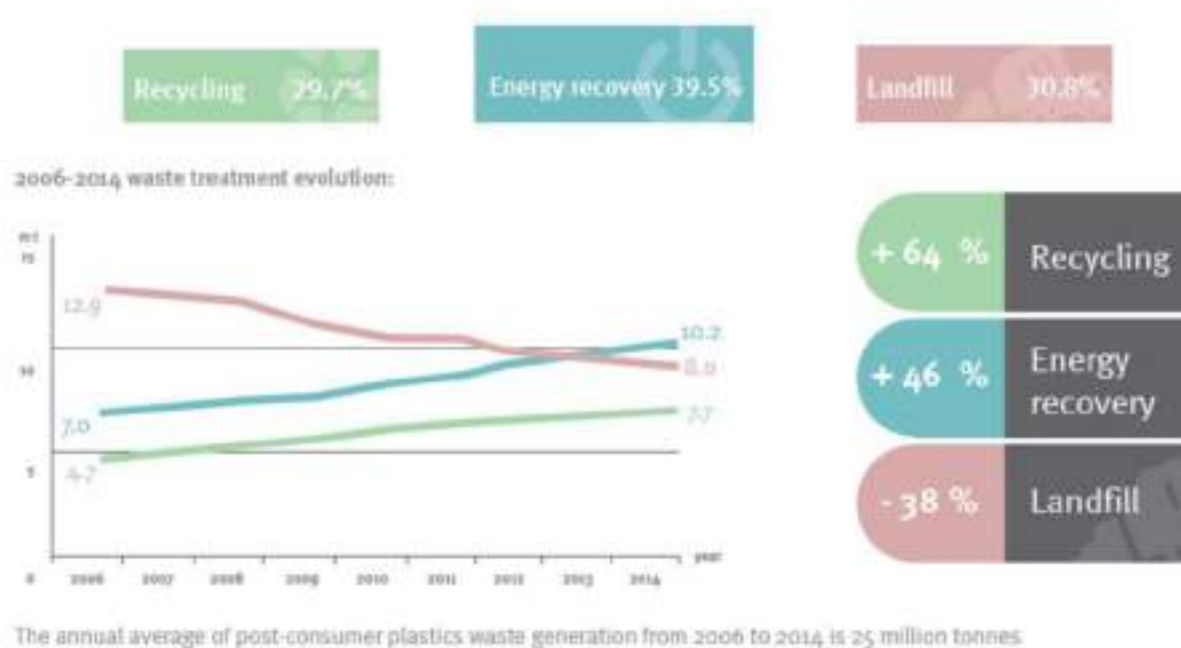


FIGURE 39 - PROGRESS OF WASTE MANAGEMENT IN THE EU (SOURCE: PLASTICS: THE FACTS)

The EU landfilled **8 million tonnes (mt)** of plastics waste, recycling **7.7 mt**, with **10.2 mt** going through an energy recovery route.

Reporting in percentages plastics recycling and energy recovery reached a combined **69.2%** and **30.8%** went to landfill. Although recycling and energy recovery has increased in the EU in recent years - in 2012 plastics recycling and energy recovery was a combined **62%** - the task to reduce landfilling is massive global challenge.

Changes in Recent Years

The progress across the EU in recent years is also shown in Figure 36. This shows the changes in recycling, energy recovery and landfill rates for post-consumer plastics between 2006 and 2014 across the EU, with a big swing between a **64% increase in recycling** and a **38% reduction in landfill** - the quantity recycled looks it is about to overtake the quantity sent to landfill. A proportion of the reduction in the use of landfill is also accounted for with a **46% increase in energy recovery** over this time.

Plastics Recycling, Energy Recovery & Landfill – Plastic Packaging

A previous version, *Plastics – The Facts 2015*, also reports whilst **40%** of all plastic products placed on the market are packaging, packaging makes up a large proportion of the waste and recycling streams, contributing **62%** to all plastic waste generated and around **80%** of all plastics recycled (just over **7.5 mt** of plastic waste were recycled in 2014, of which **6.3 mt** was packaging).

Of the **15.9 mt** of post-consumer plastic packaging produced in 2014, the **6.3 mt** meant that 39.5% was recycled, easily surpassing the EU's minimum target of **22.5%**. Except for Malta, all the EU 28+ 2 countries in 2014 exceeded the target.

The recycling rate was **34.7% in 2012** so progress have been steady and positive. Each country normally having, either by law or a covenant, fixed national targets for recycling and energy recovery – the regulations being based on the EU directive on EU Packaging and the Packaging Waste Directive.

Plastics Recycling in the EU

Recycling & Energy Recovery

Figure 37 shows the plastic packaging and energy recovery rate by country in 2014. Looking at the high performing EU countries recycling and energy recovery complement each other need to work hand in hand to manage plastic waste effectively. Recycling is always the preferred option, but when recycling is not the most sustainable option (both environmentally and economically), energy recovery is the alternative.



FIGURE 40 - PACKAGING RECYCLING & ENERGY RECOVERY BY EU COUNTRY (SOURCE: PLASTICS: THE FACTS)

There are big differences on energy recovery levels within Europe. Nine countries with a landfill ban obtained a total recovery rate (recycling + energy recovery) **above 90%**. Although there is extensive use of energy recovery technologies in these countries, they do generally achieve higher recycling rates. At the other end of the ranking list, some countries have little or no energy recovery.

The UK were ranked in the middle segment of the table. This is due to the still relatively limited use of energy recovery, although the energy recovery infrastructure in the UK is growing.

Although RECOUP does question the consistency of data reporting across the EU as there is no single reporting measurements used to compare nations on a like-for-like basis, it does provide a useful overall indicator of the approaches to managing postconsumer plastics packaging in the EU.

Overall Plastic Packaging Recycling in the UK

So how are the UK performing does performance in the EU compare to the UK? According to the National Packaging Waste Database (NPWD), **1,015,226 tonnes** of the estimated **2,260,000 tonnes** of plastics packaging placed on the market (POM) was recycled in 2016, giving an overall recycling rate for plastic packaging in the UK of **just under 45%**. This represented **just under 14%** increase from the **891,141 tonnes** of plastics packaging recycled in 2015.

The remaining **1,244,774 tonnes** that is not recycled either goes to landfill and energy recovery (including refuse-derive fuel) end destinations, but there is limited data on the breakdown of the non-recycled fraction.

In addition, according to the NPWD **63%** of the **1,015,226 tonnes** of plastic packaging recycled in 2016 was exported – **684,000 tonnes** to export and **331,000 tonnes** to domestic markets.

The **512,475 tonnes** of rigid plastic packaging collected for recycling from UK households in 2016 makes up **just over 50%** of this total, with the remaining material mainly coming from commercial and industrial (C&I) sources.

Plastics Packaging Placed on the Market

The consumption of plastics in the UK is considerable, with an estimated 3.7 million tonnes [Source: WRAP, Plastics Market Situation Report (Spring 2016)] used each year. Packaging is the main source of plastic consumed, accounting for approximately 2.2 million tonnes with non-packaging plastic estimated to be 1.5 million tonnes.

Placed on the Market - 'POM'

The quantity of plastics packaging that is placed onto the market (i.e. produced and used by consumers) is essential in providing clarity on how collections are performing and the opportunities that exist to collect more material.

Collection rates – the percentage of available plastics packaging that is collected for recycling – are calculated when the collection tonnage is compared against the best available estimate of plastics packaging placed onto the market (POM) and packaging trends (% growth per year).

Consequently, depending on the POM data the percentage recycling rates will change over and above the actual changes in reported collection quantities and can go up or down even if the collection quantities have consistently increased.

Plastic Packaging Market Study (Plastic Flow) 2014

RECOUP always use the most up-to-date best available plastics packaging POM and thus calculate the UK recycling rates for plastic packaging.

In 2014 a project commissioned by Valpak Limited and Defra was published to provide support for plastic packaging material flow estimates in Defra's packaging policy work and also review the

implications of various scenarios for future recycling rates to 2020. Titled *Plastic Packaging Market Study (Plastic Flow) 2014* and based on 2013 data, the quantities of consumer plastic packaging POM were calculated using retail sector sales data and packaging usage for plastic packaging used.

This report estimated the plastics packaging POM for the UK was **2,260,000 tonnes**, with this overall figure split between **1,534,000** by consumers (household) and **726,000** for non-consumer (non-household) – see Figure 38. This split is defined as:

- **68%** of the total quantity of plastics packaging is from household sources – food, drink, groceries, body care, clothing, DIY sold by supermarkets and retailers
- **32%** is from other sources (non-consumer) – food and drink from the hospitality sector, plastic packaging discarded by retailers back of store, and plastics packaging used by the construction, manufacturing and agricultural sectors

It should be noted the data in this report focusses on rigid plastic packaging used by households in the UK as there is not enough data to provide a UK wide picture of recycling of plastic film. The total bottles consumed through the household stream is **594,000** for plastic bottles and **525,000** for plastic pots, tubs and trays.

Stream	Quantity (Tonnes)
Consumer Total	1,534,000
Consumer - Bottles	594,000
Consumer - PTTs	525,000
Consumer - Film	414,000
Non-Consumer Total	726,000
Non-Consumer - Bottles	68,000
Non-Consumer - Other Rigid	310,000
Non-Consumer - Film	348,000
Total	2,260,000

➔ **1,119,000**

FIGURE 41 - CONSUMER PLASTICS PACKAGING PLACED ON THE MARKET (POM)

Plastics Packaging Placed on the Market

Plastics Packaging Consumption Trends

Plastics packaging POM trends are estimates and are subject to annual changes, with between 0% and 3% per annum growth typically being debated. With RECOUP agreeing with Valpak and the National Packaging Waste Database (NPWD) there was 0% annual growth, there is no evidence to suggest this has changed.

Polymers in Plastics Packaging

The data from *Plastic Packaging Market Study (Plastic Flow) 2014* does not break down the plastic packaging formats by polymer. However, a polymer breakdown was completed in the *Plastics Packaging Composition 2011* report, which was published in January 2013, when Valpak and WRAP produced a suite of reports around plastics packaging POM and composition, recycling and carbon footprint performance, and projections for meeting the UK plastics packaging recycling target.

Using the data from *Plastic Packaging Market Study (Plastic Flow) 2014* and using the percentage polymer composition breakdown outlined in *Plastics Packaging Composition 2011*, it is possible to estimate the flows of polymers through the household stream using the plastic packaging POM data (see Figure 39):

	LDPE / LLDPE	HDPE	OPP	PP	PET	PS	PVC	Other	Grand Total	Grand Total (%)
Film Total	108	105	12	69	44	1	4	71	414	27%
Rigids Total	6	188	0	121	708	50	40	7	1120	73%
Bottles	1	188	0	5	397	0	2	0	594	39%
Consumer PTTs	5	0	0	116	311	50	38	7	526	34%
Grand Total	114	293	12	190	752	51	45	78	1534	100%

FIGURE 42 - CONSUMER PLASTICS PACKAGING CONSUMPTION BY FORMAT AND POLYMER TYPE



Acknowledgements and Figure Summary

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The results and opinion from the Survey highlights areas where more work is needed. Through the work of RECOUP, its members, the Board, and through RECOUP's communication channels we can influence policy and strategic development and change. RECOUP would also like to acknowledge the support from all its valued members which has allowed us to cover the costs of completing this work.

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RECYCLING of Used Plastics Limited (RECOUP)
Registered Charity No: 1072029 & Company Registration No: 2435729
1 Metro Centre, Welbeck Way, Woodston, Peterborough, UK, PE2 7UH
t: +44 (0)1733 390021 e: enquiry@recoup.org w: www.recoup.org



@Recoup_UK
@pledge4plastics