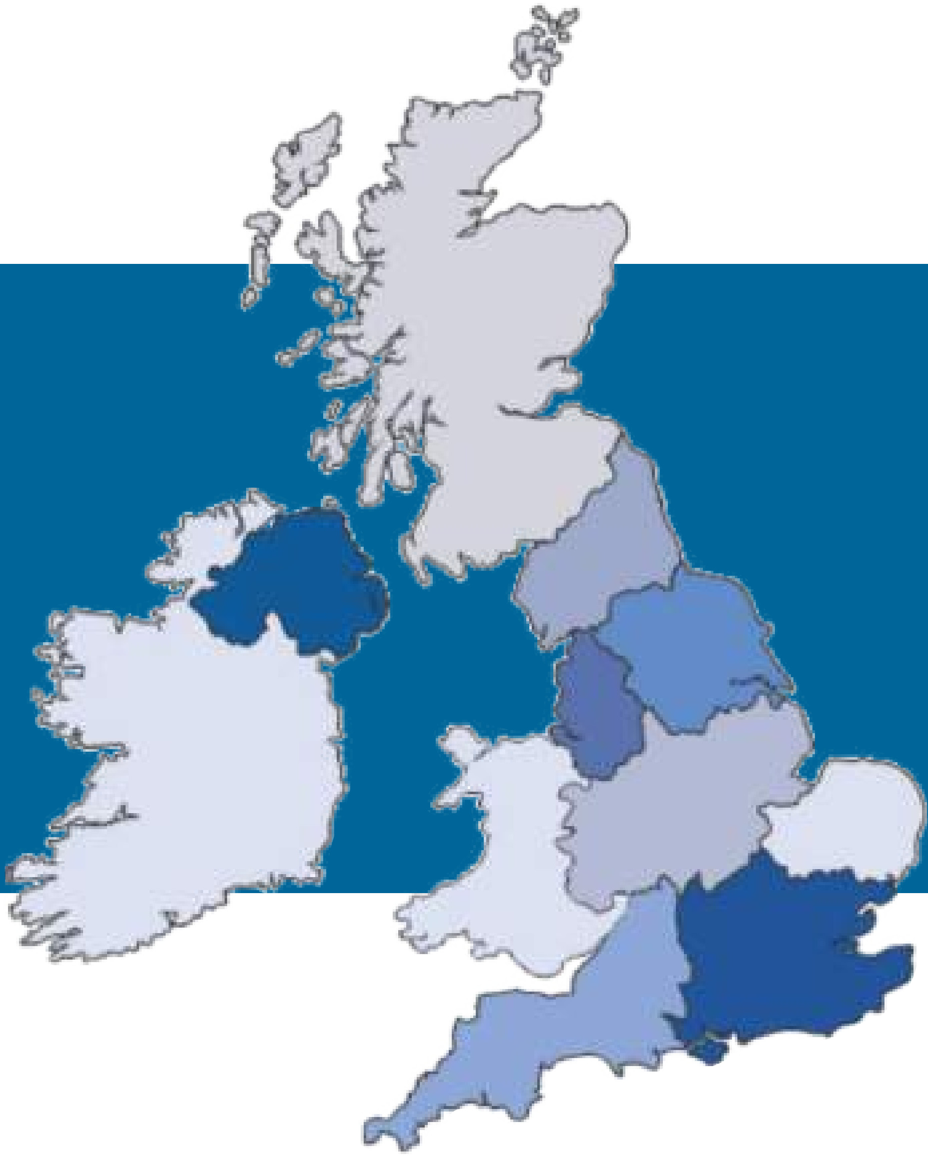
RECOUP
RECycling Of Used Plastics Limited

UK Household Plastics Collection Survey



2014

UK Household Plastics Collection Survey 2014

This work was commissioned by RECOUP and sponsored by RPC and Indorama Wellman Recycling using data gathered from UK Local Authorities and waste management companies. It also has the full support of LARAC (Local Authority Recycling Advisory Committee).

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RECycling Of Used Plastics Limited

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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 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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Contents

Key Data

Plastics Packaging Collections Data

- **1,218,308** tonnes of plastics packaging consumed by households in the UK
- **464,433** tonnes collected for recycling
- **325,945** tonnes of plastic bottles
- **138,488** tonnes of pots, tubs and trays

Scheme Type and Plastic Format

- Bottles make up **70%** of plastic collections from households
- Pots, tubs and trays make up **30%**
- **89%** of total collections are from kerbside schemes

Household Plastics Packaging Collection Rates

- **59%** Plastic bottles
- **21%** Pot, tubs and trays
- **38%** Rigid plastics packaging overall

Local Authority Household Collection Provision

- **400** Local Authorities offer a kerbside recycling collection service that includes plastic bottles - **99%** of UK Local Authorities
- Just **6** collection Authorities do not offer a kerbside recycling collection service that includes plastic bottles
- **271** Local Authorities collect pots, tubs and trays - **67%** of UK Local Authorities
- Once **75%** (**305** Authorities) of Local Authorities collect plastic pots, tubs and trays **OPRL** (On Pack Recycling Label) can change from 'check local recycling' to 'widely recycled' – this could be achieved in early 2016
- **76** Local Authorities collect plastic film - **19%** of Local Authorities
- **19** new pot, tub and tray collection schemes and **2** plastic film reported as being planned for 2014

Nation and Region Collection Levels

- The South East collected the largest amount of plastics packaging with **40,438** tonnes
- London collected the highest tonnage of pots, tubs and trays with **19,194** tonnes

Performance Rate - Average Collection Rates per Household per Year

- Plastic bottles - **11.83 kg**
- Pots, tubs and trays – **8.46 kg**
- Plastic bottles and pots, tubs and trays - **20.29 kg**

Container & Frequency

- **Wheelbins** are the most common container used for collection from kerbside (55%), followed by box (23%) and bag (22%)
- By far the most common type of kerbside service is **alternate weekly** with residual collections (60%)

Key Data

HWRC Services

- **46%** (**59** Local Authorities) confirmed the HWRC in their area collects non-packaging plastic for recycling, **44%** (**54** Local Authorities) provided some form of paint pot collection, and **30%** (**37** Local Authorities) accepted plant pots
- Very few plans to introduce or expand the existing services offered for plastic collection at HWRC sites
- Lack of end markets for the plastic fractions was often the limiting factor to introducing plastic collection services, followed by lack of space at the site for a separate collection skip

Sales, Markets & PRNs

- Average mixed plastic bottle price in 2013 was £65 per tonne
- Using the **£65** average, the un-recycled household bottles in 2013 have a potential average value of **£15m**
- Based on the median landfill tax and gate fee for non-hazardous material of £93 per tonne, these bottles would cost **£21m** to dispose of in 2013
- Average price of clear PET bale **£242**, and Natural HDPE **£313**
- Actual costs for disposal of pots, tubs and trays is between **£49m** and **£62m**
- **66%** of revenue generated from the sales of collected plastics goes to contractor in some way
- Local Authorities find UK based end destinations for **61%** of collected plastic bottles and **41%** of pots, tubs and trays
- **33%** Local Authorities declared a UK based destination, **11%** was exported and **56%** is an unknown end destination

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Communications

- In the 2014 Survey **69** Local Authorities (**35%**) are planning communication to householders and of those who said no a further **58** (**47%**) Local Authorities stated they would like to run a campaign but could not do so at this time
- A total of **127** Local Authorities (**66%**) are planning or would like to plan a plastics recycling communications campaign
- **53** Local Authorities would be willing to share guidance and data from their communications campaign
- **91%** of Local Authorities are aware of the Recycle Now iconography

Introduction

Now in its 20th year, the RECOUP UK Household Plastics Collection Survey is a research-based report which provides an in-depth review of the services in place to collect household plastics for recycling in the UK.

It continues to provide insight into the data, trends and opinions behind UK household plastics collections, and is a specialist reference for those across the plastics supply and recycling chains who have responsibilities or interests in developing sustainable plastics recycling.

RECOUP distributes the questions online to all involved in waste collection in the UK, whether Waste Partnerships, Borough, District, City or County Councils. This not only includes the current plastics packaging collection levels and methods, recycling rates, recycling targets, but also consumer communications and legislative framework.

In addition to this it also includes the first efforts at starting to build a picture of the plastics service provision at Household Waste Recycling Centres (HWRCs), progress against the UK's plastics packaging recycling targets, and a snapshot of the waste and recycling strategies across the UK including commentary on the new EU waste targets.

Influence and Support

RECOUP have a strong Local Authority and waste management presence in its membership, and continue to ensure that they are represented on the RECOUP board by LARAC and NAWDO.

The Survey in turn also reflects the challenges and barriers to plastics recycling and the issues Local Authorities face on a daily basis. This influences and feeds into the work of RECOUP, its members, the Board, and through RECOUP's communication channels to the wider plastics supply and recycling chain. The Survey can be useful in influencing policy and strategic development, and highlight areas where more work is needed.

The results of this have seen the evolution and launch of a national plastics recycling communications initiative, Pledge 4 Plastics, which has provided a wide range of design and written resources to run plastics recycling campaigns.

Thank You!

The responses to the Survey were once again very positive, not only in terms of questions around new data regarding the service provision and collection volumes, but also additional information and opinions on all aspects of plastics collections.

RECOUP would like to thank all the Local Authority recycling scheme managers, officers and their service contractors who took the time to respond to the Survey and continue to make the research so comprehensive and worthwhile.

Comment from Stuart Foster

Welcome to the new edition of the RECOUP UK Household Plastics Collection Survey. Once again the team and I have really appreciated level of information and views provided by so many of the UK Local Authorities contacted. Year on year, this support has allowed us to gain an unparalleled insight into the real data, trends and opinions behind UK household plastic collections. In turn we can provide this free report to all stakeholders to inform and benchmark household plastic recycling activities.

Of course the progress in UK plastic recycling over the last decade should not be overlooked, but focus is always on the challenges ahead. The UK has comfortably met the European plastic packaging recycling target (22.5%) for some time now. Whilst European discussions will continue during 2015, there are still stretching UK plastic packaging recycling targets to meet between now and 2017. Increasing household plastic packaging recycling has, and will continue to be critical to achieving those industry targets, as well as overall recycling targets placed on Local Authorities. It is worth noting that the nine EU countries that achieve minimal plastic packaging to landfill do so by recycling 30% to 40%, and sending the remainder through Energy from Waste systems largely as a result of landfill bans already in place.

Through the implementation of the packaging regulations, an estimated £20 million will be generated from the plastic packaging supply chain by the end of 2014 to assist with recycling. There is a need to ensure these funds are allocated in line with priorities. From data in this report, we know that the kerbside infrastructure for household plastic collections is not matched by recycling levels. There is a need for more effective consumer communications. Pledge 4 plastics was launched earlier this year, and I strongly encourage all Local Authorities to look into this initiative and get involved.

Whilst striving to meet targets, it is fundamental to ensure that the collection and handling systems are affordable, sustainable, and that the material provided to reprocessors is of an acceptable quality. Local Authorities and their service providers have been preparing for the application of TEEP collection requirements from 1st January 2015. Supplying plastic to reprocessor specifications should remain the key driver, irrespective of the type of collection service used. Quality of material supply has always been, and remains key to a successful recycling system. Green fence policies in recent years have encouraged MRFs to consider investments to achieve higher quality outputs. There have also been significant plastic infrastructure investments this year both in terms of bespoke sorting facilities and reprocessing capacity.

There is a continued requirement for a range of market options for plastics, and innovations will continue to push the boundaries of plastic recycling. Work on those ‘harder to recycle’ plastics will also become increasingly important as the higher recycling percentages become harder to attain.

Plastic is popular for so many applications, but it is these wide-ranging applications and unique characteristics that have also created some barriers to finding practical and cost effective recycling solutions. However, by working in collaboration with the entire supply and recycling chain, including Local Authorities, many of these challenges can and will be overcome. With resource security and green economies becoming leading discussions across Europe, plastic has the potential to be a truly sustainable and circular resource, and improved re-use and recycling will have a crucial role to play.

I would like to once again thank all the Local Authority recycling scheme managers and their service contractors who took the time to respond to our requests.

Survey Sponsors - RPC
Getting The Message Across

By David Baker, General Manager, RPC Containers UKSC

The ‘packaging and the environment’ debate has – thankfully – moved on from the early days when practically all packaging was regarded as ‘environmentally bad’. The greater focus on the negative impact of food waste on the environment has not only helped to take some of the heat off packaging, it has also highlighted the very vital contribution that packaging actually makes in preserving food and minimising waste.

Of course, no one would be foolish enough to think that the argument has been won. Packaging is still viewed with a great deal of suspicion in many quarters – not least the national media. And plastic packaging in particular still comes in for a great deal of unjustified criticism.

One problem for plastics is that however much we talk about its benefits in terms of product protection and preservation or its lightweight, energy efficiencies and low carbon footprint, in the eyes of the consumer, being ‘environmentally-friendly’ is still considered to be mainly about recycling.

This problem is exacerbated by the fact that plastic is so ubiquitous and available in so many different forms. Therefore, while PE milk bottles and PET drinks bottles are widely recognised as being recyclable, there is less awareness of the fact that other common plastic formats – most notably pots, tubs and trays (PTTs) made out of a variety of materials, with PP being particularly recyclable.

This is a message that we need to keep repeating. Last year RPC, in association with one of its recycled polymer suppliers Regain, produced a YouTube video to show how a used margarine tub is recycled for incorporation into a new plastic paint container, and we are continuing actively to promote the recycling capabilities of PTTs.

This is extremely important given the tough recycling targets that the industry has to reach by 2017. More to the point, the collected material is already being put to good use. The ‘inspiration’ behind our YouTube video, for example, was the paint containers that we manufacture for AkzoNobel, which incorporate 25% post-consumer recyclate (PCR).

Nevertheless, if we are going to collect more PTTs to reach these targets, it is important that we continue to develop more end markets to create the necessary demand. To do this, we have to engage the whole supply chain, particularly retailers and brand owners, who need to be encouraged to specify more recycled content in their non-food packs.

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Getting The Message Across

If we are going to encourage consumers to recycle more PTTs, we need to make it easier for them to do so. Currently, there is no joined-up thinking when it comes to the collection of used plastics. So we have a situation where, in some areas, we are being asked to recycle PTTs along with bottles, in others we are asked to recycle PTTs but separate them from bottles, while some regions are specifically asked not to recycle PTTs at all. With this level of inconsistency, it is hardly surprising that most consumers remain somewhat confused about plastics recycling. We hope new developments in plastic sorting infrastructure will help achieve more.

There is much work still to be done - in helping consumers to recognise the recyclability of PTTs, encouraging them to recycle more of them; influencing local councils to make it easier for this to happen; and generating more PCR pack opportunities to make good use of this material.

The good news is that we do have an unlikely ally in trying to achieve all this – and that is the consumer. Because the fact is that, for all the suspicion and criticism of plastic packaging, plastics remain a very popular packaging format for many food and non-food applications, thanks to their convenience, practicality and flexibility.

We have therefore to demonstrate clearly to the consumer that plastic packaging does not have to be a ‘guilty pleasure’; that using it delivers a number of sustainable advantages, from helping to minimise food waste to lower carbon emissions during transport; and that it does have a useful second life, which needs to be supported by an effective collection system.

If we can succeed in getting these messages across and, through this, effectively harness the power of the consumer, then we will at least have a fighting chance of meeting those government targets.

Container Made from 100% Recycled Material

Survey Sponsors - About Indorama Wellman Recycling

Indorama Wellman Recycling have again sponsored the Survey, and this tells you about the benefits of plastics recycling for them and about what they manufacture.

Post collection, bales of plastic bottles or PET (Polyethylene Terephthalate) bottles are delivered to our flake production facilities at Verdun and Spijk, where the bottles are sorted by colour and material type. Indorama Wellman Recycling recycles 90 bottles per second.

The sorted bottles are ground into flake, washed, rinsed and dried. The combined capacity of our two flake production facilities at Verdun and Spijk is 75,000 tonnes of flake per annum.

Recycled PET flakes are then used for the production of packaging products such as bottles and thermoformed sheet, and also used at our fibre production facility in Cavan, Ireland, where the flake is used as the raw material to produce polyester staple fibre.

Indorama Wellman has the ability to recover up to 100% of polyester components from end-of-life products. Products developed from Indorama Wellman Fibre can be re-introduced into the raw material stream and once again made into Indorama Wellman Fibre.

Sustainable Benefits of Processing Post-Consumer PET Flakes from Indorama Wellman Recycling

● 2.5 billion post consumer bottles recycled annually

- Equivalent to 200,000 barrels of oil saved annually
- Eliminates 300,000 tonnes of harmful air emissions

● Carbon footprint is 4 times lower than virgin PET

● Suitable for closed loop recycling uses (B2B)

● Based on over 20 years of recycling and sustainable experience

20 Years of the Survey

RECOUP's Household Plastics Collection Survey is celebrating its 20th year of publication. The scale and progress not only for plastics recycling, but for recycling as a whole over this time has been significant and whilst some of the issues and hot topics have changed, other remain strikingly similar.

It is very appropriate that this 20th edition of the Survey can report two milestones being reached. Since reporting began, the UK has now collected over two million tonnes of plastic bottles and half a million tonnes of pots, tubs and trays for recycling. We estimate that's nearly 50 billion bottles saved from landfill in the last 20 years!

Two million tonnes of plastic bottles and half a million tonnes of pots, tubs and trays collected for recycling!

50 billion bottles saved from landfill in the last 20 years!

The significant increases in collections could simply not have been anticipated back in 1994, but it is through this Survey that the impressive progress and story of plastics recycling from UK's households can be tracked.

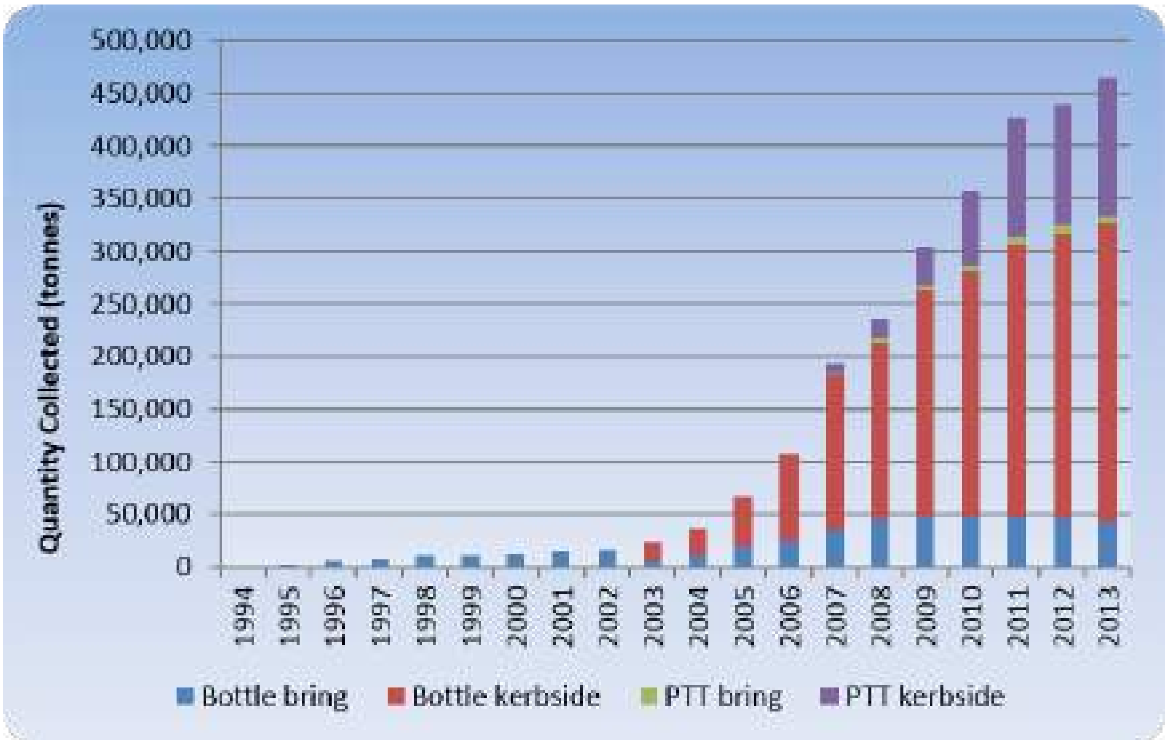
The first Survey was completed by sending out questions, by fax of course, to Local Authorities about their plastic collection services. A reported 3,150 tonnes of plastic bottles had been collected for recycling in total, with 900 plastic bottle collection points and kerbside bottle collections covering 300,000 households. This represented eight kerbside bottle schemes including Milton Keynes, Leeds, Sheffield, Cardiff, Falkirk, Stirling, and Adur and Worthing. There was also focus on optimising collection routes, managing quality through communications, and the development of basic MRF facilities to effectively sort bottles, including state of the art automatic detection units.

The First RECOUP Survey Report & Issue of RECOUP News (Both 1994)

After the success of these early schemes, collections grew steadily as Local Authorities became more aware of the opportunities and benefits of collecting plastic bottles. Sustainable markets developed, better handling and sorting infrastructure was installed, and the public became more familiar with recycling plastic bottles. Around this time it was also noted that adding plastic bottles to a collection service also boosted the collection of other recyclables such as paper and glass.

Schemes and collection levels continued to grow through the 1990's. By 2003 it was established that from 24,000 tonnes of plastic bottles collected for recycling, it consisted of 18,000 tonnes from kerbside schemes and 6,000 tonnes from bring schemes – over three times more from kerbside schemes. At this time the landscape of household plastics collection began to change, and collecting commingled dry recyclables from households became more common. There has been a significant growth in the use of kerbside collection systems ever since, although bring schemes have maintained a presence in a number of areas as a supporting service.

Figure 1 - Growth in Household Plastics Packaging Collections



From 2007, the collection of other rigid plastic packaging such as pots, tubs and trays was monitored, and has shown rapid increases. It should be noted that a few Local Authorities started collecting this material for recycling long before this, and one of the earliest collection schemes registered was in Exeter. Now commonly referred to as PTTs, this collection growth continues. As the collection offering has expanded, the popularity of alternating services, fortnightly collections and commingled collections has also increased. Even more recently, the number of kerbside services expanding further to collect household films is increasing.

The job is not yet complete. There is still a need to further increase the collection levels reported both for the more traditional items such as bottles and pots, tubs and trays, and other items such as films and non-packaging plastics. No-one can be certain what the next 20 years will hold for household plastic recycling, but RECOUP will continue to monitor and support its progress, and provide this information to you through the Survey report each year.

Methodology & Reporting

Collating and reporting the data in this Survey is a time consuming process, and a methodology is essential in order to develop an understanding of how the data is calculated and explain some of the acronyms that have been used.

Data Analysis

RECOUP always strive to use the most accurate reported collection tonnages. Using the methodology described we are confident that this is the best dataset to monitor household plastics packaging collections.

The data and information collected in the 2014 Survey was provided by the majority of Local Authorities and based on the 2013 calendar or 2013/14 financial year.

With the nature of reporting collection data it is not simply about adding up reported tonnages. Due to operational pressures and time restraints, it is often not easy or even possible for Local Authorities to provide plastics collection tonnage, particularly broken down in the detail that is required for this report.

The developing issue for Local Authorities in recent years when reporting collection data is that they are increasingly collecting commingled materials from their kerbside or bring schemes, and that bring sites are serviced as part of their kerbside collection route. This means the total collection tonnage provided might not only be for plastics, but a combination of dry recyclables such as aluminium and steel cans, paper, cardboard and glass. These materials may also be present in the plastics fraction as contaminants when the weights are taken.

Even if an overall total of plastics collected can be provided by an authority, in many cases it is not broken down by collection scheme (kerbside and bring) or plastic format (plastic bottles / pots, tubs and trays / plastic film). 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. With a number of Local Authorities claiming to collect 'all plastics packaging', it has been found that, in many cases, this means only rigid plastics packaging and not plastic film.

The key point is that there are many variables that can affect the reported tonnage from Local Authorities. The submitted data and information might need to be checked, followed up, or a different method used to calculate, for example, the plastics fraction or the tonnage collected from the bring scheme, to ensure the final dataset is as accurate as possible.

As an example, in the 2014 Survey there were a total of 85 Local Authorities which provided plastics only data, and an additional 39 provided a total for their commingled collection tonnage. This meant there was a total of 124 Local Authorities where further calculations were required. There was 108 Local Authorities that provided data in this way for in the 2013 Survey.

The approach taken if there is no collection data or partial data, is that it would be established what services the Local Authority offered, and an estimated dataset was completed based this service provision and applying reasonable assumptions. This would be done using previous years' responses and average performance data by 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).

In addition to the Survey responses every Local Authority website was checked to see what services they offered, and if there was any conflicting information on the website the Local Authority was called to ensure the information used was accurate.

These approaches have been used where necessary to establish service provision, calculating collection tonnage, average collections per household per year (kg per household per year) and the number of bring sites. All other data and analysis in the Survey were based on actual responses only.

Household Plastic Film and Non-Packaging Plastic

The total tonnage collected in 2013 does not factor in plastic film, non-packaging plastics and collections from HWRCs (Household Waste Recycling Centres). Efforts have been made to gain more information about the collection tonnages of these plastic formats and the HWRC system, but not enough to estimate a UK wide total tonnage. However, with kerbside collection of plastic bottles and pots, tubs and trays paramount, RECOUP believe that even if an estimated total tonnage was reported it would not impact significantly on the overall total tonnage collected for recycling in the UK.

Plastics from Non-Household Sources

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, and agriculture. However, some Local Authorities do offer commercial and industrial plastics collection schemes, and assessing the scale of these collections is an increasingly valid piece of work. This would need extensive research and could only be produced by RECOUP if separate sponsorship was available.

It is also inevitable that some 'household like' plastics from non-household sources will enter household recycling systems, for example, when consumed in the workplace or 'on the go'. It is not possible to account for this within this report, although consumer behaviour research could provide some additional insight in this area, again, if separate sponsorship was made available.

Terminology

The main terms that are used in this report refer to collection type and plastic format. The second highest collected plastic format behind plastic bottles is non-bottle rigid household plastics packaging, and the term strongly recommended by RECOUP when referring to this format is pots, tubs and trays (PTT). In terms of collection schemes, there are two schemes used – kerbside and bring. Kerbside are where recyclables are collected directly from householders' doorsteps. Bring schemes are where containers are placed in central public locations such as supermarket sites and car parks.

Any acronyms that could be used have, in general, been spelt out unless they are specifically referred to many times in one section. In these situations the acronym has been included at the relevant point and has been used for additional occurrences.

Polymer types have been referred to as acronyms. These are:

- PET – Polyethylene Terephthalate
- HDPE – High Density Polyethylene
- PP - Polypropylene
- PVC – Polyvinyl Chloride
- PS - Polystyrene

WasteDataFlow

WasteDataFlow - Local Authority Recycling Performance Data vs Plastics Recycling Levels

Well known to everyone responsible for recycling data is WasteDataFlow *(www.wastedataflow.org/home.aspx)*, the database for UK Local Authorities to report municipal waste data to the government. This was set up with the aim of gradually replacing the number of waste questionnaires issued to Local Authorities by government, departments, agencies, institutions and organisations about their waste and recycling performance, with only one dataset that they would need to complete. However, the same issues Local Authorities have in reporting tonnages for dry recyclables in this Survey also exist in completing WasteDataFlow. The issue could be that they do not have the necessary resources in place to investigate, obtain or calculate the data, or it might be that the processes are not in place and it is just not possible to report the data.

There are also often no obvious links between plastics collections and Local Authority recycling rates reported by WasteDataFlow. Again, this can be due to the data reported for WasteDataFlow is for all dry recyclables, and there is limited or no plastic specific data available.

For these reasons the RECOUP Survey is still a hugely valid research report. We will continue to monitor the most accurate and effective methods, including WasteDataFlow, in order to report the best dataset to monitor household plastics packaging collections.

UK Plastics Packaging Consumption Data

Once the collection tonnage is known, this can then be combined with best available packaging trends and consumption data to calculate the percentage recycling rates.

Until the 2012 Survey the plastics packaging consumption data was based on a detailed review that took place in *UK Plastics Waste – A Review of Supplies for Recycling, Global Market Demand, Future Trends and Associated Risks*, a report produced by WRAP, GHK and RECOUP in 2006.

However, in January 2013, Valpak and WRAP produced a suite of reports around plastics packaging consumption (the flow onto the market), long-term recycling and carbon footprint projections. These were:

- Plastics Packaging Composition 2011 – to provide the composition of the plastics packaging consumed by packaging format and polymer type
- Plasflow 2017 – to map the flow of plastics packaging from consumption (using P*lastics Packaging Composition 2011*) through to end markets in order to develop compliance scenarios for meeting the 2017 plastics packaging recycling target
- Plasflow Carbon – to assess the carbon footprint scenarios to meet the 2017 plastics packaging target (using the data and models outlined in *PlasFlow 2017*)

These provided strong new evidence and methodologies to calculate plastics packaging consumption and thus recycling rates.

RECOUP contributed data and information for these reports, and at the time accepted that the data was the most robust currently available. However, at the time of publishing this report a study into plastic packaging trends and consumption is being finalised, and RECOUP will evaluate this data once it is published with a view to using it in the 2015 Survey.

Current Plastics Packaging Consumption Data

The original source of the quantities of UK plastics packaging consumed and whether it was from household or non-household sources were estimated using another Valpak report, *PackFlow 2017*. This was published in 2012 to provide knowledge of the flow of packaging materials in the UK both past, present and the future (to 2017). It provided the consumption data using ranges, and for the purposes of calculating total consumption and consequently recycling rates, midpoints of these ranges were used, and these are shown in Figure 2.

Figure 2 - UK Plastics Packaging Consumption

Source	Split	Total
Consumer (Household)	57%	1,445,000
Consumer (Away from Home)	11%	279,000
Consumer (Total)	68%	1,724,000
Non-Consumer	32%	811,000
Total	100%	2,535,000

When calculating the current consumption rates for each plastic format, the focus was on data in P*lastics Packaging Composition 2011*, which takes the consumption data from *PackFlow 2017*. The research in this report covered both consumer (household) and non-consumer (non-household sectors, mainly consisting of Commercial & Industrial) packaging, and was a totally new way of estimating plastics packaging consumption in UK households. This methodology estimates the composition of consumer plastics packaging by sampling supermarket packaging using the packaging weight, format and polymer data which was provided by supermarkets' suppliers and from product sales data.

The household and non-household totals were then broken down by plastic formats (rigid and film) and also by polymer. As this report focuses on plastics packaging flowing through UK households, the breakdown of the 1,724,000 tonnes is shown in Figure 3. However, this data could not be used in its original form. Certain key parts needed to be extracted to calculate the recycling rates for plastic bottles and pots, tubs and trays, and these are highlighted in the red cells.

Figure 3 - Consumer Plastics Packaging Consumption by Format and Polymer Type (2011)

	LDPE / LLDPE	HDPE	OPP	PP	PET	PS	PVC	Other	Grand Total	Grand Total (%)
Film Total	145	140	16	93	59	1	6	95	556	32%
Rigids Total	10	193	4	150	688	66	42	15	1167	68%
Bottles	1	158	0	4	333	0	2	0	498	29%
Consumer Closures	3	32	3	17	21	0	1	3	80	5%
Consumer PTTs	5	0	0	123	329	53	39	7	556	32%
Other	1	2	0	5	6	13	0	5	33	2%
Grand Total	156	333	20	243	747	68	48	110	1724	100%

How the Plastics Packaging Consumption Data is Calculated

It can clearly be seen that the 498kt are plastic bottles, and the 556kt is for pots, tubs and trays. However, it is not so clear where the tonnage for 'Consumer Closures' and 'Other' plastics packaging should be allocated. The 80kt of closures refer to rigid consumer closures for plastic bottles and pots, tubs and trays. The 'Other' category is for the other plastic formats that are not covered by the plastic bottle, pot, tub and tray and closure categories, and this includes items such as tubes, valves and pads.

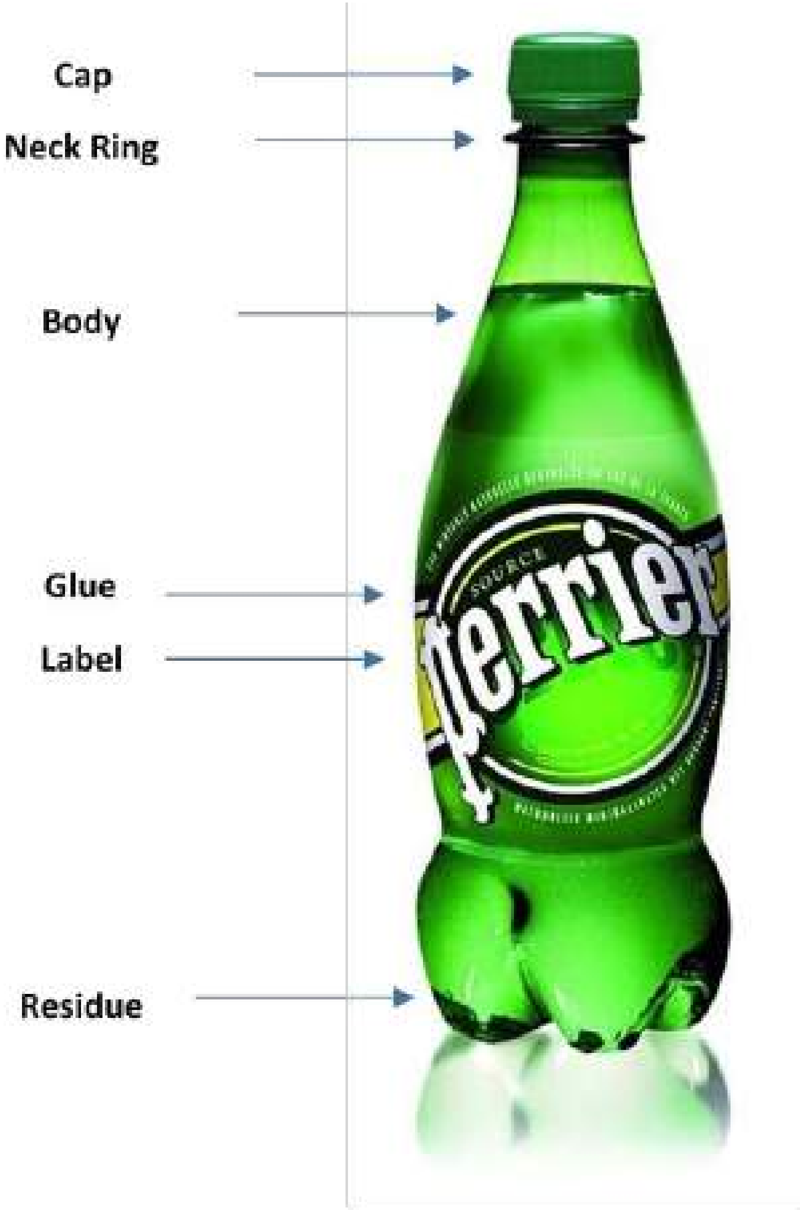
With the 80kt closures being split between plastic bottles and pots, tubs and trays, the evidence provided by Valpak is that 36% of this being plastic bottle caps, which is 29kt. The remaining 51kt are rigid closures for pots, tubs and trays. The reported tonnage for closures has actually doubled from 2005 to 2011, which according to one of the sponsors of the Survey and RECOUP member, RPC Group, was an accurate reflection of the market.

The 'Other' category is a relatively small tonnage amount of 33kt, and with the majority of this tonnage being attributed to non-bottle rigid plastic rigid plastics packaging, all of this tonnage has been added to the pot, tub and tray consumption tonnage.

In addition to this, plastic labels have not been accounted for in the rigid fraction in Figure 3, as they are made of film. An informed RECOUP estimate of 4kt has been made, which is taken from the 556kt film fraction.

Residue

It should be noted that the current consumption data doesn't include any tonnage for residue i.e. fluid or food left in the packaging, and wasn't included in the Valpak data as the focus was on the actual plastics packaging.



Plastics Packaging Consumption Trends

Plastics packaging consumption trends are estimates, with between 0% and 3% per annum growth frequently being debated. RECOUP has assumed a 2% annual growth rate for rigid plastic packaging since 2005, and as in 2012 the approach taken by RECOUP for 2013 is there should be a 2% increase for plastic bottles and pots, tubs and trays, thus increasing consumption data provided in P*lastics Packaging Composition 2011* and *Plasflow 2017* by 2% for 2012 and 2% for 2013.

Plastic Bottles

The calculation to show the plastic bottle consumption rate is shown below:

Plastic Bottle Consumption Calculation

Body – 498kt
Closures (cap and neck ring) – 29kt (36% of 80kt)
Labels – 4kt (from the 556kt film fraction)
Residue – none
Total = 531kt

Plus 2% annual increase for 2012 = **541,620**

Plus 2% annual increase for 2013 = **552,452**

There is no weight attributed for any adhesive used, although this would be so small it is not expected to have any impact on the overall weight.

Pots, Tubs and Trays

The calculation to show the pot, tub and tray consumption rate is shown below:

Pot, Tub and Tray Consumption Calculation

Body – 556kt
Closures (rigid lids and closures) – 51kt (80kt minus 29kt attributed for plastic bottles)
Other – 33kt (including 15kt of film)
Residue – none
Total = 640kt

Plus 2% annual increase for 2012 = **652,800**

Plus 2% annual increase for 2013 = **665,856**

Every year a comprehensive review is completed in the Survey to establish the service provision for plastics packaging collections across the UK. This was based on three variables, the actual Survey questions, checking every Local Authority website to see what is collected and calling the Local Authorities to check any conflicting information.

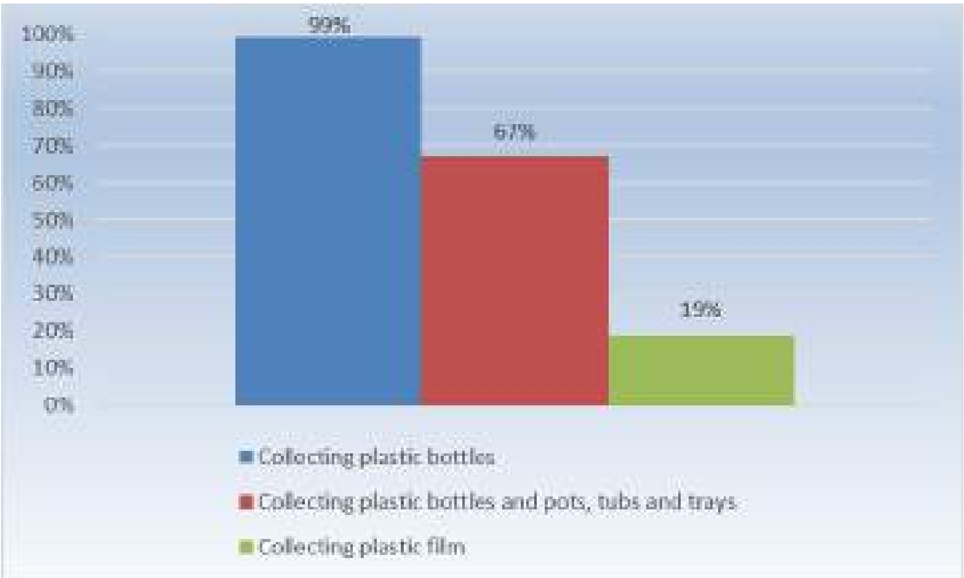
The information below refers to the overall Local Authority service provision for collections of rigid plastics packaging from kerbside and bring schemes.

Kerbside Schemes

It can be confirmed that a total of 400 of the 406 Local Authorities in the UK provide a kerbside scheme to collect plastic bottles (99%), with 271 of those also collecting pots, tubs and trays (67%). This means that an additional 9 Local Authorities have implemented a collection of plastic bottles from kerbside, and another 27 Authorities are collecting pots, tubs and trays.

Although it has not been possible to report an overall collection tonnage for plastic film, it has been established that 76 Local Authorities collect plastic film as part of their kerbside collection service. This represents 19% of the UK Local Authorities.

Figure 4 - Local Authorities Kerbside Plastics Packaging Collection Provision



Number of Households Covered by Kerbside Plastics Collection Schemes

Not every household will receive a collection service from their Local Authority. This might be due to the type of property it is (which is mainly due to flats and 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. This is particularly true for the recent pot, tub and tray collections. Considering this level of detail, it is often not easy or even possible for Local Authorities to report exactly how many households receive a service.

However, a broad assumption can be made using the number of households in the UK with at least one usual resident i.e. the household has a regular kerbside collection. It can then be stated the maximum number of households that receive a kerbside collection that includes plastics i.e. the number of households receiving a kerbside collection can include any figure up to the total number of households. The sources for the number of households are the Office for National Statistics - 2011 Census: Population and household estimates for England and Wales (Published 16th July 2012), General Register Office for Scotland - Estimates and Dwellings in Scotland, 2012 (2nd revision: 10th July 2013) and Northern Ireland Statistics & Research Agency - Census 2011, Population and Household Estimates by Local Government District for Northern Ireland (September 2012).

Plastic Bottles

If it is assumed that 99% of Local Authorities provide a typical representation of the average number of households per Local Authority in the UK, if every household in these Authorities was potentially able to make use of the kerbside service this means the plastic kerbside infrastructure in the UK covers up to 26,174,981 of the 26,439,375 households with at least one usual resident.

Pots, Tubs and Trays

With many collection schemes for pots, tubs and trays in the UK being rolled out it is more difficult to establish the number of households that receive a service. Therefore, with 67% of the Local Authorities in the UK providing a pot, tub and tray kerbside collection service, the methodology that was applied for plastic bottles can be used. Assuming the 67% of Local Authorities provides a typical representation of the average number of households per authority in the UK, once these schemes are fully established and if every household in these Local Authorities are able to place their pots, tubs and trays in the recyclables collection container, this means the plastic kerbside infrastructure in the UK covers up to 17,714,381 of the 26,439,375 households with at least one usual resident.

Film

With 19% of Local Authorities in the UK collecting plastic film as part of their kerbside collection it has been possible in the 2014 Survey to estimate a maximum number of households that receive a service, 5,055,248 households with at least one usual resident. However, as with the pots tubs and trays it should be noted that many schemes are in their infancy and the actual figure of households covered is likely to be significantly less than this.

Bring Schemes

The 2014 Survey can confirm that 245 (60%) of the 406 collection Authorities in the UK reported they provide a bring scheme to collect plastic bottles. This represents 11 (3%) fewer Local Authorities in 2013 offering a bring service for plastic bottles than the 256 that were reported in 2012.

From the total of 245 Local Authorities that offer a bring service, 155 (63%) collect plastic bottles only with 90 (37%) of those also collecting pots, tubs and trays. This represents an additional three (3%) Local Authorities that reported they were offering a collection in 2013.

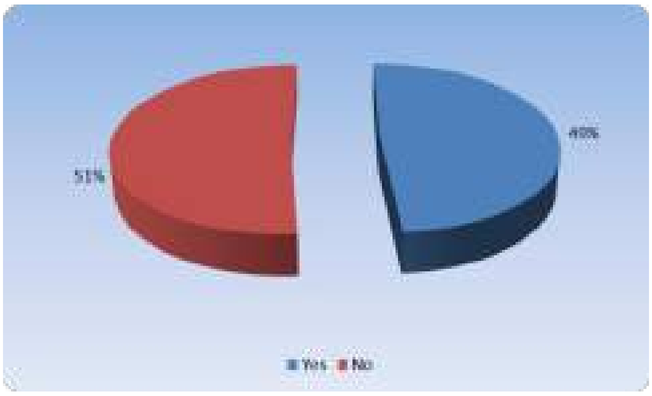
Bring Sites

It has not been possible to report on the number of bring sites in place for plastic bottles or pots, tubs and trays. Although there were many responses to this question from Local Authorities, there wasn't enough information to report accurate data on a UK wide basis.

Recycling on the Go

A question was asked in the 2014 Survey whether a Local Authorities provide a recycle on the go service. There were 221 responses to this question, with broadly a 50/50 split, with 108 (49%) stating they offer a service and 113 (51%) stating they do not.

Figure 5 - Local Authorities Providing Recycling on the Go Units for Plastic Bottles



There has been a number of brand funded schemes across the UK, with Local Authorities not seeing the relatively small tonnages collected as a priority. However, an effective communicated scheme can generate good quality material and also reduce litter, and there can be clear benefits for encouraging positive behaviour change.

Buxton Recycle Cycle

An example of this is the 'Recycle Cycle' scheme in Buxton, a community recycling scheme partnership between Nestlé Waters, RECOUP and High Peak Borough Council, which aims to change people's behaviour towards recycling and show that their efforts can make a real difference. This has seen over 60 units placed in the town centre, local attractions and schools. In addition to the recycling units being placed in the schools there has been engagement with a number of schools in the form of recycling competitions and an education programme, which was delivered in school assemblies.

With a high level of awareness of the scheme there has been a general increased awareness and profile through both recycling on the go and kerbside schemes alike. Please get in touch with RECOUP if you would like to find out more about this scheme or wider recycle on the go opportunities.

Service Provision Summary

Plastic Bottles

A summary of the infrastructure in the UK for England, Scotland, Wales and Northern Ireland to collect plastic bottles from both kerbside and bring schemes is shown in Figure 6. This includes the service provision by collection scheme (kerbside and bring), and the estimated number of households that could receive a kerbside collection service.

Figure 6 - Breakdown of Collections of Plastic Bottles by Country and Scheme Type

Plastic Bottles			
Country	Kerbside Schemes		Bring Schemes
	Number of Local Authorities	Number of Households	Number of Local Authorities
England	320	21,657,325	191
Scotland	32	2,370,000	27
Wales	22	1,302,700	16
Northern Ireland	26	703,275	13
Total	**400**	**26,033,300**	**247**

Pots, Tubs and Trays

The infrastructure in the UK by nation to collect pots, tubs and trays from kerbside and bring schemes is shown in Figure 7. As with plastic bottles, this includes the service provision by collection scheme (kerbside and bring), and the estimated number of households that could receive a kerbside collection service.

Figure 7 - Breakdown of Collections of Pots, Tubs and Trends by Country and Scheme Type

Pots, Tubs and Trays			
Country	Kerbside Schemes		Bring Schemes
	Number of Local Authorities	Number of Households	Number of Local Authorities
England	213	14,415,657	66
Scotland	21	1,555,313	11
Wales	18	1,065,845	7
Northern Ireland	19	513,932	6
Total	**271**	**17,550,747**	**90**

Film

The infrastructure in the UK by nation to collect pots, tubs and trays from kerbside is shown in Figure 8. It has not been possible to report the collection of film from bring sites as data has been provided for plastic bottles and pots, tubs and trays only.

Figure 8 - Breakdown of Collections of Plastic Film by Country and Scheme Type

Plastic Film		
Country	Kerbside Schemes	
	Number of Local Authorities	Number of Households
England	62	4,196,107
Scotland	6	444,375
Wales	7	414,495
Northern Ireland	1	270
Total	**76**	**5,055,248**

Reported New Services

In the 2013 Survey it was reported that four new plastic bottle and 20 new pot, tub and tray collection schemes were planned to be implemented in 2013, so it was reassuring the Survey captured nearly 70% of the planned service changes.

Local Authorities were again asked if they planned to introduce new schemes, and the results are shown in Figure 9.

Figure 9 - Plans to Introduce New Plastics Collection Services

2013	Kerbside Scheme		Bring Scheme	
	Yes	No	Yes	No
Plastic Bottles	0	0	1	107
Pots, Tubs and Trays	19	44	6	137
Film	2	143	0	179
Non-Packaging Plastics	3	140	1	169

There is a clear focus on planned new kerbside pot, tub and tray collections, with only a small number of Authorities reporting they are planning a kerbside collection service for film and non-packaging plastics. It should be noted there is some confusion over how non-packaging plastics are classified, and this is covered in more detail on page 39.

RECOUP continue to monitor the 6 Local Authorities that do not offer a collection for plastic bottles as part of their kerbside collection service.

There are a small number of planned new bring services reported, and with bring services also being removed it is likely that bring service provision will either remain the same or reduce slightly in future years.

OPRL

With 271 Local Authorities offering a kerbside collection that includes pots, tubs and trays this means only another 34 Local Authorities need to collect this plastic format before it has implications for OPRL (On Pack Recycling Label). The OPRL scheme aims to deliver a simple and consistent recycling message on both retailer and brand packaging to help consumers recycle more. Once 75% (305 Authorities) of Local Authorities collect plastic pots, tubs and trays the message can change from ‘check local recycling’ to ‘widely recycled’.

If new schemes continue to be rolled out at the current rate, this ‘widely recycled’ could be seen on pots, tubs and trays in early 2016.

34 More Local Authorities offering pot, tub and tray service before they can change to “Widely Recycled”

Household Plastics Collection Levels & Rates

RECOUP can confirm that the total plastics packaging collected from households in the UK in 2013 is 464,443 tonnes.

The composition by plastic format and collection scheme is:

Figure 10 - Breakdown of Household Plastics Packaging by Scheme and Packaging Type

2013	Plastic Bottles (Tonnes)	Pots, Tubs and Trays (Tonnes)	TOTAL (Tonnes)
Kerbside Schemes	282,197	130,678	412,875
Bring Schemes	43,748	7,810	51,558
TOTAL	**325,945**	**138,488**	**464,433**

This is an overall increase of 24,032 tonnes, and confirms an additional 9,891 tonnes of plastic bottles and 14,141 tonnes of pots, tubs and trays. This represents a modest 3.1% increase for plastic bottles and 11.4% increase for pots, tubs and trays.

Plastic bottle collections continue to plateau, with the 9,891 tonne (3.1%) increase following a 9,795 tonnes (3.2%) increase reported in 2013. Increases were not as substantial compared to 2011 when a 25,162 tonne uplift was reported. It is clear a shift in consumer behaviour is needed in order to meet the increasing demands made by the EU and UK Government.

The significant increases in pot, tub and tray collections in recent years has continued.

New Household Collection Rates

In the 2014 Survey the source used to calculate recycling rates remaining the same and with a 2% estimated increase on the overall plastic packaging consumption level, the headline recycling rate summary is:

Figure 11 - Plastics Packaging Collection Rates

Plastic Bottles	
Consumption Tonnage	552,452
Collection Tonnage	325,945
Recycling Rate	59%

Pots, Tubs & Trays	
Consumption Tonnage	665,856
Collection Tonnage	138,488
Recycling Rate	21%

Overall Rigid Plastic Packaging	
Consumption Tonnage	1,218,308
Collection Tonnage	464,433
Recycling Rate	38%

These new collection rates represent a modest increase from 2012 to 2013, with just a 1% increase across the board for plastic bottles (previously 58%), pots, tubs and trays (previously 21%), and by definition, the overall rigid plastic packaging rate (previously 37%).

It should be noted at this point that the plastic bottle recycling rate only passed the 50% barrier for the first time in 2011, with a rate of 52%. However, in 2012 there was significant caveat in that there was a reduction in the plastic bottle consumption data between 2011 and 2012, with the plastic bottle consumption tonnage reducing from 592,100 tonnes to 541,620 tonnes. This resulted in a leap between a 52% plastic bottle recycling rate in 2011 and a 58% rate in 2012, but not because of large collection increases but due to revised consumption data.

Although there were changes to the consumption tonnage for pots, tubs and trays between 2011 and 2012, this only had a minor effect on the recycling rate. In contrast to plastic bottles, the consumption tonnage increased from being estimated at the top end of an estimated 500,000-600,000 range (i.e. 600,000) in 2011 to 652,800 tonnes in 2012. This has meant small changes in the recycling rate from 19% in 2011, to 20% in 2012 and now 21% in 2013. Prior to this it was only possible to estimate a pot, tub and tray recycling rate within a range, which was 12%-15% in 2010.

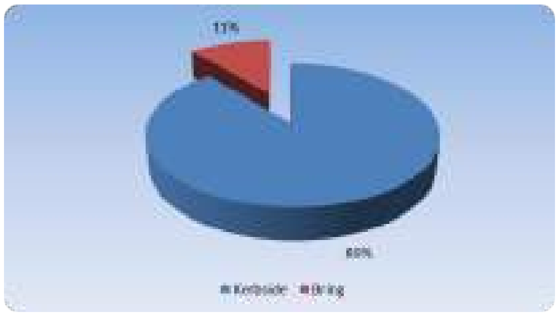
RECOUP always use the best available consumption data and most accurate reported collection tonnages to ensure that the recycling rates are as accurate as possible. Any revision of the consumption data will realign collection rates, but it is important to reflect new data and trends that are researched and reported.

Kerbside and Bring Scheme Comparison

The proportion of collected tonnage from kerbside schemes over bring schemes is steadily increasing, with 87% being from kerbside schemes in 2011, 88% in 2012 and now 89% in 2013.

Clearly any real increases in future collections are going to be from kerbside schemes. It appears that one Local Authority may remove the service, another might introduce a service to their residents, with bring schemes generally used by Local Authorities alongside kerbside schemes to form part of their overall 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 kerbside service might not be available to residents, such as in rural communities or high rise or dense population areas.

Figure 12 - Plastics Packaging Collected by Scheme Type

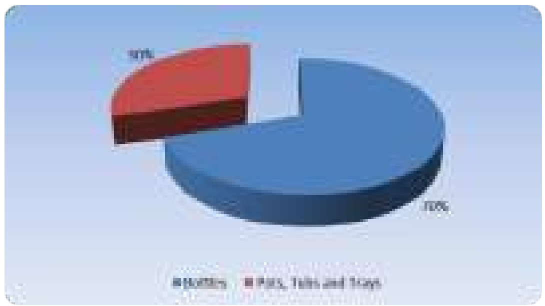


Plastic Bottles and Pot, Tub and Tray Comparison

Collections of plastics in 2013 consist of plastic bottles, pots, tubs and trays, and also plastic film and non-packaging plastics. However, the total plastics packaging tonnage collected does not factor in plastic film and non-packaging plastics.

Therefore, the current collection data is split between plastic bottles and pots, tubs and trays, and the breakdown of the total plastics packaging collected is shown in Figure 13.

Figure 13 - Plastics Packaging Composition



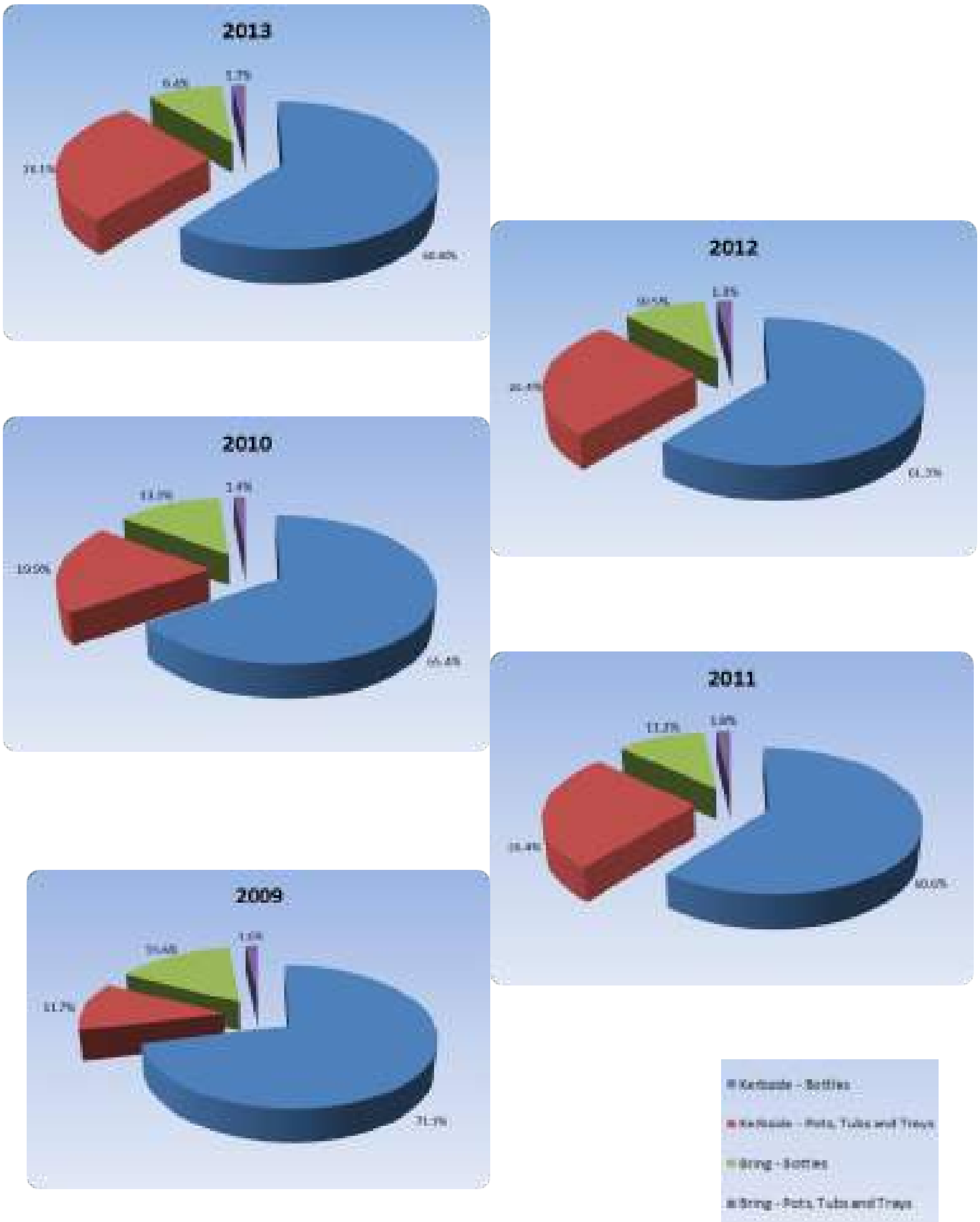
Collection Trends

It is useful to look at developments in recent years and predict future trends in collection levels.

Figure 14 provides the proportion of collections from kerbside and bring schemes. This backs up the plateauing collection from bring schemes, but also their role and use to collect plastics packaging.

Looking more closely at developments in recent years the percentage breakdown of the total tonnage collected by scheme and plastic format over the past four years is shown in Figure 14. This provides a good indication of trends, and illustrates both the increased role of kerbside as the key scheme for collecting household plastics packaging but also the increasing proportion of pots, tubs and trays that are now coming through the household waste and recycling stream.

Figure 14 - Percentage of Plastics Packaging Collected by Scheme Type



The changes in collection levels by tonnage and percentage from the 2013 Survey by collection scheme and plastic format are detailed in Figure 15.

Figure 15 - Changes in Collection Rates between 2012 & 2013 by Plastic Format & Collection Scheme Type

2013	Kerbside		Bring		TOTAL	
	Tonnage	% Change	Tonnage	% Change	Tonnage	% Change
Plastic Bottles	▲ 12,407	▲ 4.6%	▼ -2,516	▼ -5.4%	▲ 9,891	▲ 3.1%
Pots, Tubs and Trays	▲ 14,607	▲ 12.6%	▼ -466	▼ -5.6%	▲ 14,141	▲ 11.4%
TOTAL	▲ 27,014	▲ 7%	▼ 2,982	▲ 5.9%	▲ 27,014	▲ 5.5%

This reflects the modest increases for plastic bottles and not insignificant increase seen from pot, tub and tray collections.

Plastic Bottles

With an additional 9 Local Authorities collecting plastic bottles from their kerbside collection scheme, there are now only 6 Local Authorities not offering a service. However, although they were implemented throughout 2013 and it can take time for a collection scheme to become established.

The increase from the 2013 Survey was because of a 4.6% increase from kerbside schemes (12,407 tonnes). However, there is also a 2,516 tonne reduction in reported collection levels from bring schemes. As mentioned on page 13 this decrease from bring schemes could reflect the growing trend of bring material being collected together with kerbside collections and under reporting collections from bring schemes with the collection tonnage being included in the kerbside total.

The overall increase of 9,891 tonnes was largely made up of increases across all four UK nations –England (6,096 tonnes or 2.4%), Scotland (673 tonnes or 2.7%), Wales (737 or 3.8%), and Northern Ireland (1,385 tonnes, 15.8%). It is observed that the increases in Northern Ireland are higher than the other UK nations, and this addresses an anomaly that was reported in the 2013 Survey, with 1,806 tonnes (17.1%) reduction in collection tonnages. It was noted this was a relatively small change in terms of actual tonnes and it could be due to erroneous reported collections from a small number of Local Authorities the previous year, the reported tonnages have now aligned themselves with expected collection levels.

The collection data and percentage increases for the UK for plastic bottles is presented in Figure 16.

Household Plastics Collection Levels & Rates

Figure 16 - Breakdown of Plastic Bottle Collections by Country in 2013 and Respective Changes to 2012

		Tonnes	Previous Increase
UK	2012		
	Total Quantity of Plastic Bottles Collected in 2012	316,054	▲ 3.2%
	Through Kerbside Schemes	269,790	▲ 4.3%
	Through Bring Schemes	46,264	▼ -3.0%
	2013		
	Total Quantity of Plastic Bottles Collected in 2013	325,945	▲ 3.1%
	Through Kerbside Schemes	282,197	▲ 4.6%
	Through Bring Schemes	43,748	▼ -5.4%
England	2012		
	Total Quantity of Plastic Bottles Collected in 2012	254,093	▲ 4.4%
	Through Kerbside Schemes	221,966	▲ 5.0%
	Through Bring Schemes	32,127	▲ 0.6%
	2013		
	Total Quantity of Plastic Bottles Collected in 2013	260,189	▲ 2.4%
	Through Kerbside Schemes	231,528	▲ 4.3%
	Through Bring Schemes	28,661	▼ -10.8%
Scotland	2012		
	Total Quantity of Plastic Bottles Collected in 2012	24,830	▲ 1.4%
	Through Kerbside Schemes	21,272	▲ 7.4%
	Through Bring Schemes	3,558	▼ -24.1%
	2013		
	Total Quantity of Plastic Bottles Collected in 2013	25,503	▲ 2.7%
	Through Kerbside Schemes	21,984	▲ 3.3%
	Through Bring Schemes	3,519	▼ -1.1%
Wales	2012		
	Total Quantity of Plastic Bottles Collected in 2012	19,364	▲ 2.6%
	Through Kerbside Schemes	17,965	▲ 1.7%
	Through Bring Schemes	1,399	▲ 15.1%
	2013		
	Total Quantity of Plastic Bottles Collected in 2013	20,101	▲ 3.8%
	Through Kerbside Schemes	18,766	▲ 4.5%
	Through Bring Schemes	1,335	▼ -4.6%
Northern Ireland	2012		
	Total Quantity of Plastic Bottles Collected in 2012	8,767	▼ -17.1%
	Through Kerbside Schemes	8,588	▼ -11.4%
	Through Bring Schemes	180	▼ -79.5%
	2013		
	Total Quantity of Plastic Bottles Collected in 2013	10,152	▲ 15.8%
	Through Kerbside Schemes	9,920	▲ 15.5%
	Through Bring Schemes	232	▲ 28.8%
WDA	Estimated WDA & ROTG Collections	10,000	11.1%

Figure 17 compares the split of collections for plastic bottles from kerbside and bring schemes, the totals of these for England, Scotland, Wales and Northern Ireland, and how they relate to the population split by nation (per capita). The data indicates that England accounts for 78.8% of total UK plastic bottle collection (this was 80.4% in 2012, 79.4% in 2011 and 79% in 2010). This can be compared to England's 83.4% proportion of the total number of UK households with at least one usual resident.

Figure 17 - Percentage Comparisons of Plastic Bottle Kerbside and Bring Collections by Tonnage and Per Capita

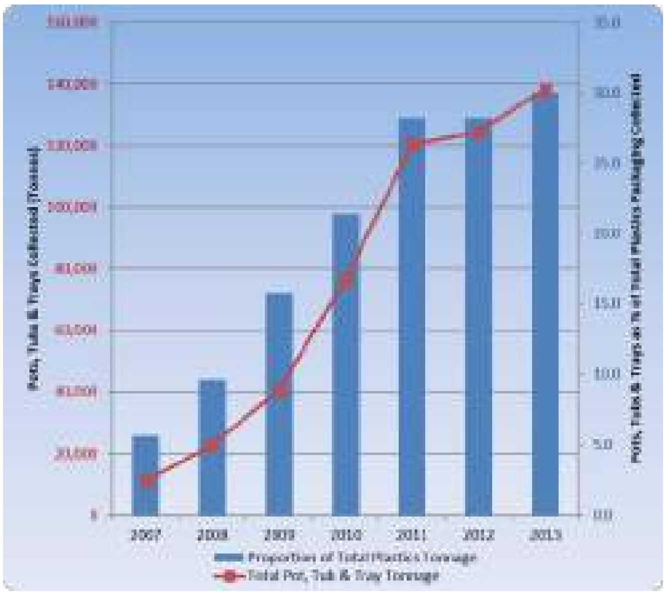
Country	Kerbside Bottles as % Split	Bring Bottles as % Split	Overall Bottles as % Total	Population as % of UK Total
England	82.0%	65.5%	79.8%	83.4%
Scotland	7.8%	8.0%	7.8%	9.0%
Wales	6.6%	3.1%	6.2%	4.9%
Northern Ireland	3.5%	0.5%	3.1%	2.7%
Unspecified UK WDA and ROTG	n/a	22.9%	3.1%	n/a

Scotland, Wales and Northern Ireland reported 7.8%, 6.2% and 3.1% respectively – they reported 7.9%, 6.1% and 2.8% in 2012, 8%, 6.2% and 3.5% in 2011 and 8%, 6% and 3.6% in 2010. The increase from 2.8% to 3.1% in Northern Ireland accounts for the realignment of collection data documented above. As in previous years, the changes in plastic bottle collection levels are negligible on a UK scale from 2010 and are broadly in line with the UK population split.

Pots, Tubs & Trays

With an overall increase of 243% in 5 years from 2009 to 2013, collections levels for pots, tubs and trays are estimated by RECOUP to continue to increase their proportion of the total household plastics packaging collected for recycling (see Figure 18).

Figure 18 - Pot, Tub and Tray Collection Tonnage and Proportion of the Total Plastics Packaging Collected



The 14,141 tonnes (11.4%) increase in pot, tub and tray collections reflects the maturity of the schemes currently in place and the additional 27 new schemes that were implemented in 2013. Although this maybe not as high as some estimates indicated, it is starting to mirror the positive but steady increases experienced when the kerbside service provision for plastic bottle was being implemented across the UK.

The collection data and percentage increases for the UK for pots, tubs and trays is presented in Figure 19.

Figure 19 - Breakdown of Pot, Tub and Tray Collections by Country in 2013 and Respective Changes to 2012

		Tonnes	Previous Increase
UK	**2012**		
	Total Quantity of Pots, Tubs and Trays Collected in 2012	124,347	▲ 3.3%
	Through Kerbside Schemes	116,071	▲ 3.1%
	Through Bring Schemes	8,276	▲ 6.4%
	2013		
	Total Quantity of Pots, Tubs and Trays Collected in 2013	**138,488**	**▲ 11.4%**
	Through Kerbside Schemes	**130,678**	▲ 12.6%
	Through Bring Schemes	**7,810**	▼ -5.6%
England	**2012**		
	Total Quantity of Pots, Tubs and Trays Collected in 2012	99,303	▲ 1.1%
	Through Kerbside Schemes	93,183	▲ 0.9%
	Through Bring Schemes	6,120	▲ 4.4%
	2013		
	Total Quantity of Pots, Tubs and Trays Collected in 2013	**112,068**	**▲ 12.8%**
	Through Kerbside Schemes	**106,181**	▲ 13.9%
	Through Bring Schemes	**5,888**	▼ -3.8%
Scotland	**2012**		
	Total Quantity of Pots, Tubs and Trays Collected in 2012	9,289	▲ 5.9%
	Through Kerbside Schemes	8,445	▲ 3.3%
	Through Bring Schemes	844	▲ 41.1%
	2013		
	Total Quantity of Pots, Tubs and Trays Collected in 2013	**9,988**	**▲ 7.5%**
	Through Kerbside Schemes	**9,219**	▲ 9.2%
	Through Bring Schemes	**769**	▲ -8.9%
Wales	**2012**		
	Total Quantity of Pots, Tubs and Trays Collected in 2012	12,562	▲ 18.8%
	Through Kerbside Schemes	11,496	▲ 21.6%
	Through Bring Schemes	1,066	▼ -4.9%
	2013		
	Total Quantity of Pots, Tubs and Trays Collected in 2013	**12,868**	**▲ 2.4%**
	Through Kerbside Schemes	**11,930**	▲ 3.8%
	Through Bring Schemes	**939**	▼ -11.9%
Northern Ireland	**2012**		
	Total Quantity of Pots, Tubs and Trays Collected in 2012	3,193	▲ 17.0%
	Through Kerbside Schemes	2,947	▲ 16.5%
	Through Bring Schemes	246	▲ 23.0%
	2013		
	Total Quantity of Pots, Tubs and Trays Collected in 2013	**3,563**	**▲ 11.6%**
	Through Kerbside Schemes	**3,348**	▲ 13.6%
	Through Bring Schemes	**215**	▼ -12.6%

Household Plastics Collection Levels & Rates

The biggest increases for overall kerbside and bring collections were seen in England (12,765 tonnes or 12.8%), with Scotland (699 tonnes or 7.5%), with Wales (306 tonnes or 2.4%) and Northern Ireland (370 tonnes or 11.6%).

All UK nations reported increases in kerbside collection schemes for pots, tubs and trays, with England (12,998 tonnes or 13.9%), Scotland (9,219 tonnes or 9.2%) and Northern Ireland (401 tonnes or 13.6%) reporting increases. Wales produced the most modest increases, which is thought to be a realignment of collection data with higher collections than expected in 2012 of 21.6% (2,039 tonnes). This could be due to a higher pot, tub and tray fraction being reported or estimated by RECOUP from the overall household plastic packaging total.

In line with the on-going trend for increases in kerbside collections rather than bring, the majority of the tonnage increases from pots, tubs and trays was from kerbside collections (14,607 tonnes), with a 466 or 5.6% reduction from bring schemes. This reduction was spread across the UK nations, with England (232 tonnes or 3.8%), Scotland (75 tonnes or 8.9%), Wales (127 tonnes or 11.9%) and Northern Ireland (31 tonnes or 12.6%) reporting similar type reductions.

The split of collections for pots, tubs and trays from kerbside and bring schemes and the totals of these for England, Scotland, Wales and Northern Ireland and how they relate to the population split by nation (per capita) is shown in Figure 20. The data indicates that England accounts for 80.9% of the total UK pot, tub and tray collection – this was 79.9% in 2012 and 81.7% in 2011), with Scotland, Wales and Northern Ireland increasing their proportion from the previous year, reporting 7.2%, 9.3% and 2.6% respectively.

Figure 20 - Percentage Comparisons of Pot, Tub and Tray Kerbside and Bring Collections by Tonnage and Per Capita

Country	Kerbside Pots, Tubs and Trays as % Split	Bring Pots, Tubs and Trays as % Split	Overall Pots, Tubs and Trays as % Total	Population as % of UK Total
England	81.3%	75.4%	80.9%	83.4%
Scotland	7.1%	9.8%	7.2%	9.0%
Wales	9.1%	12.0%	9.3%	4.9%
Northern Ireland	2.6%	2.8%	2.6%	2.7%

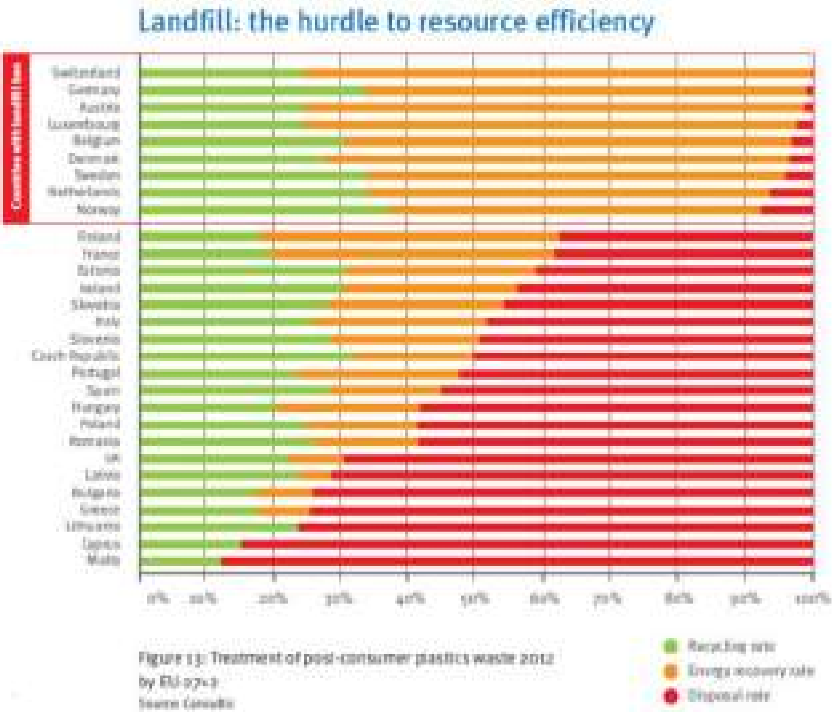
The decrease in collections in Wales reflects the alignment of the collection data described as above. As in previous years, the changes are negligible on a UK scale from 2011 and are broadly in line with the UK population split. However, with their population only making up 4.9% of the UK population, they are still outperforming their UK counterparts per capita.

EU Plastics Packaging Recycling - The Hurdle to Resource Efficiency

The focus of this Survey is on the UK. However, EU Directives provide the legislative drivers in the development and implementation of policy and targets for the recycling industry across the UK, and this is none more relevant now with new long term strategies and targets being considered by the EU. As such it is important to benchmark and identify how the UK recycling levels compare to plastics recycling and recovery levels in other EU countries.

The source for the recycling and energy recovery rates across Europe is Plastics - the Facts, produced by PlasticsEurope. The latest version is the 2013 edition which was based on 2012 data, and it is this data that was used in the previous Survey. However, it is still the most up-to-date source available for plastics packaging recycling and energy recovery across the EU.

Figure 21 - Recycling and Energy Recovery Rate per Country in the EU (Plastics - The Facts 2013)



The ‘recycling rate shown is mechanical recycling i.e. recycled materials used as raw materials in second life applications and products. Energy recovery refers to creating energy and possibly heat from a process of burning waste.

Titled ‘the Hurdle to resource Efficiency’, it gives a clear message of the task ahead, not just for the UK, but for many of the EU member states. How much of the disposal rate transposes to recycling and energy recovery and how quickly will be a key focus.

Historically, the UK were below average in EU plastics recycling and recovery rates until 2004, from which time significant growth has occurred. This was driven by the development of the kerbside collection infrastructure, initially for plastic bottles, and more recently by increasing collections of pots, tubs and trays, and increases from the commercial and industrial sector.

Based on plastics packaging tonnage recovered in Europe in 2012, combining both recycling and energy recovery, the UK were ranked 23rd from 29 countries. This was up from 25th in 2011, with the UK being ranked 20th in 2010. While the UK are recycling and recovering 32% of plastics packaging in 2012, there are nine countries achieving above 90% recovery – Switzerland, Germany, Austria, Sweden, Denmark, Belgium, Luxembourg, Netherlands and Norway. However, energy recovery technologies are used extensively by countries with the highest plastics landfill diversion rates (showing a wide range of between 0% and 77%), and the infrastructure for these technologies has only been implemented on a limited scale in the UK, but more sites are planned and coming online.

Mechanical recycling performance across EU countries typically ranges from between 20% and 35%, and when considering the mechanical recycling rate in isolation the UK was ranked about the same as in previous years. No EU country achieved a higher recycling rate than 38%, and RECOUP question the consistency of data reporting from some countries compared to the UK.

Whatever the UK’s exact position, it is clear the UK needs to further develop its plastics recycling infrastructure and technologies to both meet ongoing targets and be seen as a leader in plastics waste and resource management. The new EU waste and recycling strategies are likely to move the bar even higher, and the pressure for the UK nations to react to this will be significant.

Kerbside Schemes

Since data was first reported from kerbside schemes in the Survey in 2003 they have been the predominant method for the collection of household plastics packaging in the UK. There are a number of factors that affect a kerbside scheme's operational efficiency, recovery performance and cost, and this section analyses a range of data and considerations for this type of service. These include collection rates by region and country, average collections per household, frequency of collections and the container types used.

Infrastructure and Collection Summary

The infrastructure for collecting plastic bottles from kerbside collection schemes started to see significant results two years after the Survey started to report collection data in 2003. There were 46,918 tonnes being collected in 2005 and 215,576 tonnes in 2009. Several factors can be attributed to the increase in this period, mainly due to many new services being launched and existing schemes being expanded and becoming more efficient (such as changing from weekly to alternate weekly collections). During these developments more extensive communications and resident engagement would have been necessary, although this is not possible to measure.

These kerbside schemes collected 412,875 tonnes of plastic bottles and pots, tubs and trays in 2013, a 27,014 tonnes and 7% increase from 2012. This represented an increase of:

- 12,047 tonnes or 4.6% increase of plastic bottles
- 14,607 tonnes or 12.6% increase of pots, tubs and trays

Container Types, Performance and TEEP

There are three main types of kerbside collection container – wheel bin, box and bags (disposable and re-usable). Some Local Authorities use a combination of these, and in previous Surveys the prominent container has been used in the data analysis. However, in the 2014 Survey combinations have also been requested to capture different container types that are used, and there were responses from over 200 Local Authorities.

Since 2007, the most popular kerbside recyclables collection container has been a wheel bin, and it is now used in 55% of plastics recycling collections. Boxes and bags are used in similar numbers, with boxes used by 23% of Local Authorities and bags by 22%. The predominant use of wheel bins is a reflection of the increase in commingled collections, the wider adoption of alternate weekly collections and the introduction of the collection of pots, tubs and trays. It is estimated that up to 26 million households in the UK receive a kerbside plastic bottle collection service, and on that basis there are now up to 14.3 million households using a wheel bin to collect dry recyclables including plastic bottles. Using the same principle, both boxes and bags are used in up to just under 6 million households.

Figure 22 - Use of Container Type in Kerbside Recycling Collections

Container Type	Use of Container Type	% Use
Wheelbin	153	55%
Box	64	23%
Bag	60	22%

Looking at the combinations that are used, single units, whether they are wheel bins, boxes or bags, account for 70% of kerbside plastics recycling collections, with 30% using dual or triple unit combinations. The 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 wheelbins cannot be utilised.

TEEP (whether it is Technically, Environmentally and Economically Practicable to collect materials separately) applies to both household and commercial and industrial materials, and comes in effect from 1st January 2015.

Interpretation of the term 'collected separately' is key to this. The Waste Regulations 2011 for England and Wales stated that as long as materials collected for recycling were collected separately from other waste, then the collector had the choice of whether to collect commingled or separately. However, this was later qualified as being these materials could only be collected commingled where it does not detract from the quality of the recycling. With Defra not publishing specific guidance on TEEP this has led to Local Authorities having to analyse the operations, demographics and circumstances in its own area, and using tools such as WRAPs TEEP 'Route Map' as a guide. It is thought the majority of Local Authorities will be maintaining existing collection provision.

Figure 23 - Use of Container Combinations in Kerbside Recycling Collections

Container Type	Use of Container Type	% Use
Single Unit	142	70%
Dual Unit	51	25%
Triple Unit	11	5%

Wheel bins are now provided as the sole container for 49% of kerbside plastic bottle collections, with boxes used in 11% and bags in 9% of collections respectively. The combinations for wheel bins and boxes and wheel bins and bags are both 10%, with boxes and bags (4%) and all container types used by 5% of Local Authorities.

Figure 24 - Container Combination in Kerbside Plastics Recycling Collections

Container Combination	Number of Local Authorities	% Split
Wheelbin only	100	49%
Wheelbin & Box	21	10%
Wheelbin & Bag	21	10%
Wheelbin, Box & Bag	11	5%
Box only	23	11%
Bag only	19	9%
Box & Bag	9	4%

Wheel bins typically have a 240 litre capacity, although 120 and 360 litre wheel bins are also used, and boxes usually have a 55 litre capacity. It is also standard practice to use different coloured containers to distinguish between waste, recyclables and organic material, although these are not standardised across the UK. A summary review in 2012 suggested that there are no fewer than 8 different colours used across the UK for the containers which collect plastic bottles, with green and blue appearing to be the most common colours adopted.

Frequency of Recyclables Collection

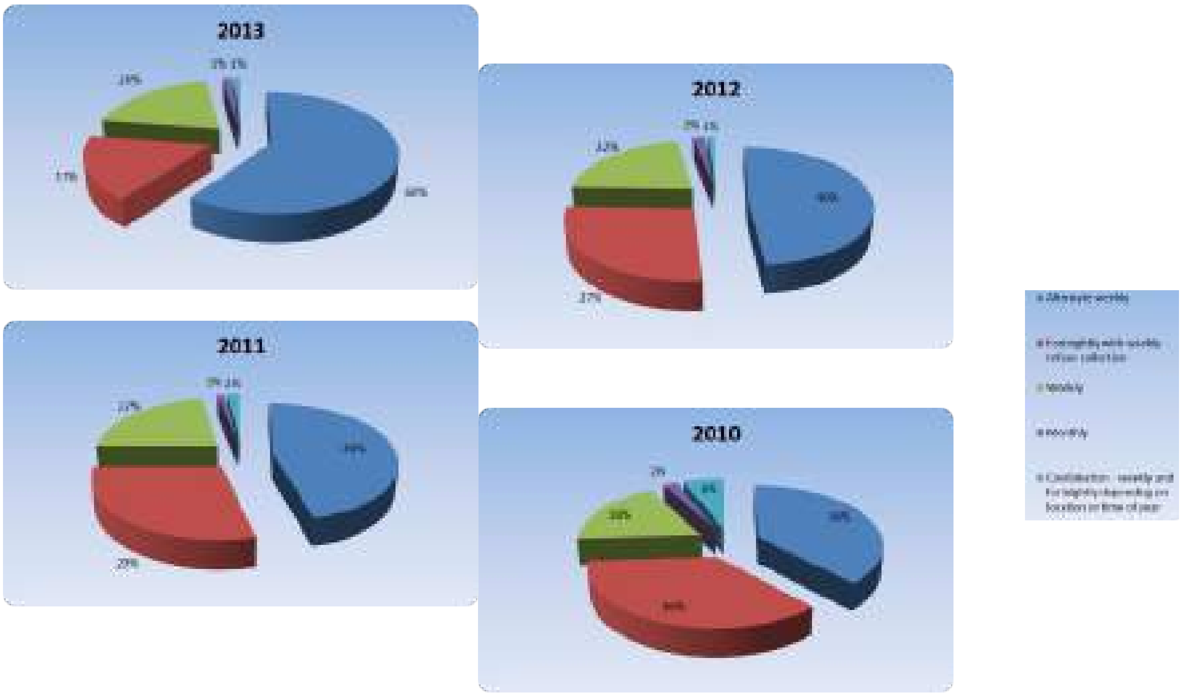
The frequency of the recyclables collection is an important factor in the effectiveness of a kerbside recycling scheme. This can typically range from weekly, alternate weekly (with the residual collection), fortnightly, monthly, or a combination of these.

Although the number of Local Authorities providing each type of service has been fairly consistent in recent years, there has been a marked increase in alternate weekly service s with the residual collection.

Overall fortnightly recyclables collections are most popular, covering 77% of Local Authority areas with a kerbside plastic bottle collection (this was 76% in 2012). However, when analysed further, 60% of Local Authorities provide an alternate weekly service with the residual collection and 17% provide a weekly refuse collection. This represents a continuing noticeable shift towards an alternate weekly service. 49% of Local Authorities provided an alternate weekly collection and 27% a fortnightly collection with weekly refuse collection in 2012.

Weekly recyclables collections account for 20% of Local Authority services, and 2% offer a monthly recyclables collection or use a combination of collection frequencies in their area.

Figure 25 - Frequency of Kerbside Plastics Collection Service



Measuring Performance Indicators

There is a well-established number of performance indicators provided for plastic kerbside collections. To validate these indicators the data has been analysed to provide a 95% confidence interval. For example, this means that there is a 95% probability that a Local Authority's kg collected per household per year for any given parameter will be within a defined range of the average performance reported.

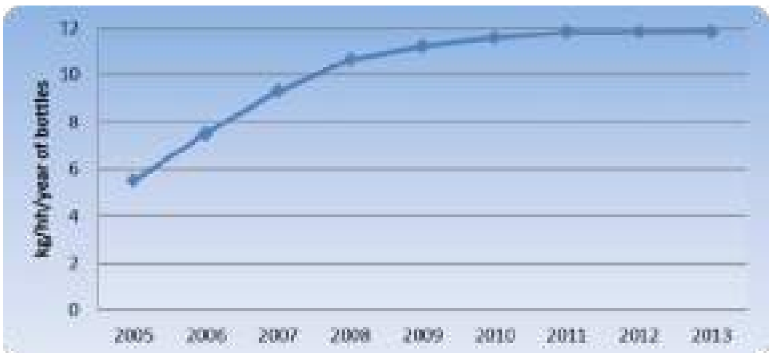
These datasets are provided for indicative purposes only, since a number of factors can influence collection rates, including types and quantity of other materials collected and how the scheme is communicated to residents.

Plastic Bottles

Average Kerbside Collection Rates

The UK has experienced modest average plastic bottle collection rate per household increases since the substantial increase experienced from 2005-2009 (see Figure 26).

Figure 26 - Average Kerbside Collection Rates of Plastic Bottles per Household from 2005 to 2013



Historically in the Survey the number of households that receive a kerbside collection for dry recyclables has been reported by Local Authorities. This, when combined with the collection tonnages, provides the average kerbside collection rates (kg per household per year).

However, as covered on page 18 trying to relate the kerbside collection schemes in place to the precise number of households that receive a service is a difficult task, and it is often not easy or even possible for Local Authorities to report how many households receive a service. This is particularly true for the recent pot, tub and tray collections that are being rolled out.

In the 2013 Survey a broad assumption was made using the number of households in the UK with at least one usual resident i.e. the household has a regular kerbside collection.

It can be confirmed the average kerbside collection rate of plastic bottles per household is 11.83kg, a very small increase from the 11.82kg reported for 2012. This has remained largely unchanged for 5 years, with 11.81 kg, 11.57 kg and 11.2 kg being recorded in 2011, 2010 and 2009 respectively - a 1.19 kg (5.6%) increase over this time.

To provide some context about potential collections per household, if all the plastic bottles that were consumed in UK households were collected the average plastic bottle collection rate per household would be around 21 kg.

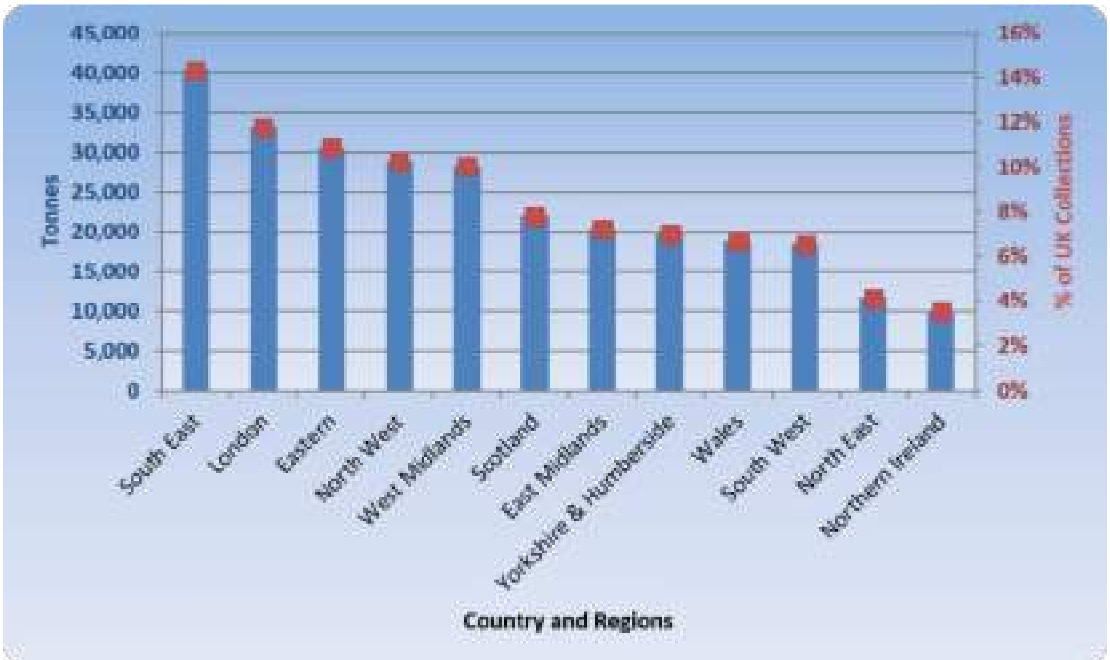
Service Provision and Number of Households that Receive a Service

It has been confirmed in the Service Provision section (page 18) that there are there are 400 kerbside collection schemes including plastic bottles in the UK, 9 more than were identified in 2012. Using the methodology above, these collections now represent 99% of the Local Authorities that operate collections in the UK, and provide coverage for up to 26 million households in the UK.

Kerbside Collections by Country and Region

There was a total increase of 12,407 tonnes of plastic bottles from kerbside schemes. The highest total kerbside plastic bottle tonnage collected was from the South East with 40,438 tonnes, representing 14% of the total UK plastic bottles collected from kerbside schemes. Figure 27 provides a breakdown of kerbside plastic bottle collection by country and region.

Figure 27 - Kerbside Plastic Bottle Recovery and Average Collected per Household by Country and Region



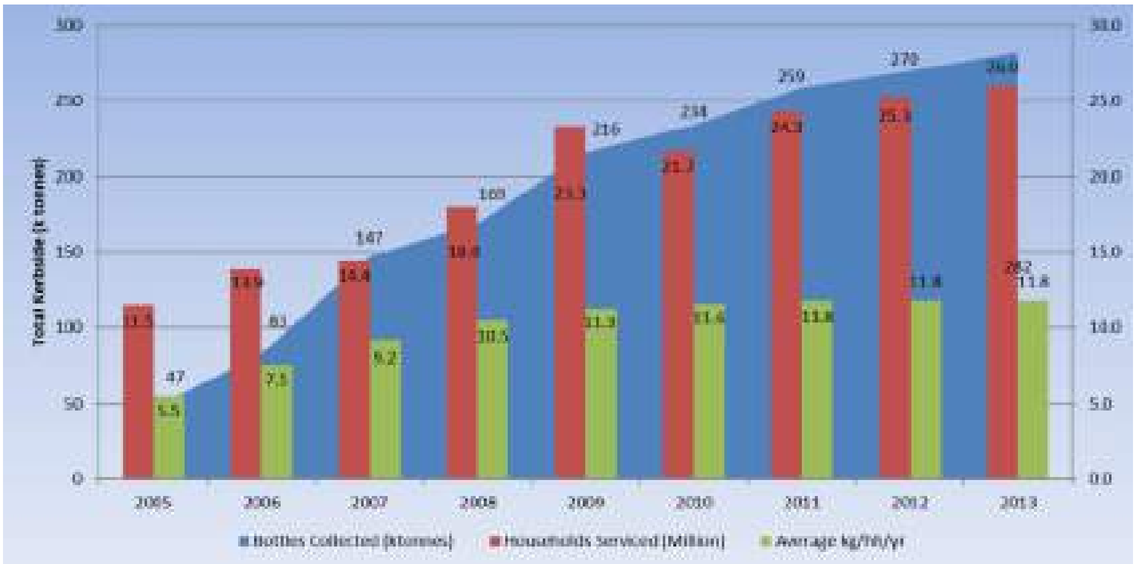
The data indicates that England accounts for 82.3% of the total UK plastic bottle collections, with Scotland, Wales and Northern Ireland representing 7.8%, 6.6% and 3.5% respectively. These proportions are broadly in line the UK population split, although as in the 2012 Survey, Wales is collecting more than would be expected for its population size.

Consolidated Kerbside Scheme Parameter Trends

With kerbside plastic bottle collections being established for a number of years it is possible to combines key indicators for kerbside plastic bottle collections into one summarised graph, which includes total tonnage, average weight per household, and number of households serviced. Although it does not provide direct comparisons, as each dataset uses a different value scale, it can be an effective reference point for mapping kerbside bottle collection development over time. There is clearly an upward trend for each indicator, discounting the 2009 households serviced data anomaly which was corrected for 2010.

Please note that the primary axis (left) refers to the total tonnage (k tonnes), whilst the secondary axis (right) refers to the other indicators – total households serviced (millions) and average kg collected per household.

Figure 28 - Comparison between Parameters Influencing Kerbside Plastic Bottle Recycling

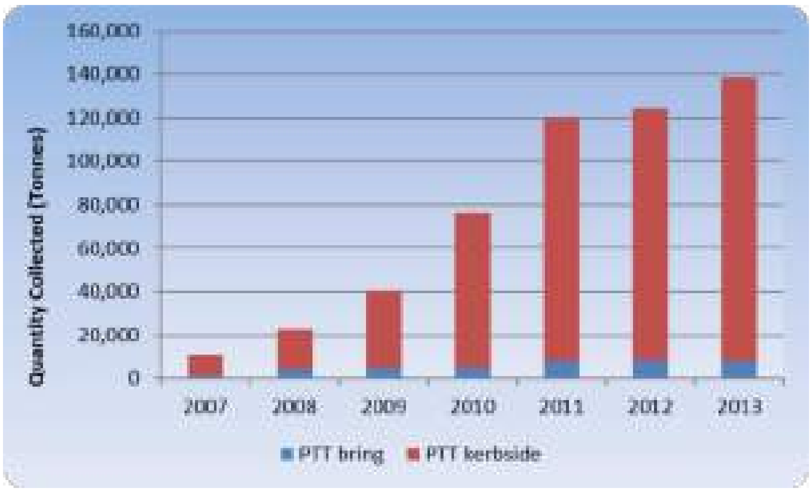


Pots, Tubs and Trays

Collections Levels

The collection levels for pots, tubs and trays has seen a significant rise since the Survey reported collection tonnages in 2007. These increases are mainly through the expansion of kerbside schemes, although collections are in place from some bring schemes across the UK. There were 9,079 tonnes being collected in 2007 when collections levels were first reported, and 130,678 tonnes being collected in 2013.

Figure 29 - Growth in Household Plastics Packaging Collections



With a further 27 Local Authorities collecting pots, tubs and trays from their kerbside collections in 2013 there are now 271 that offer kerbside pot, tub and tray service provision. This represents an 11.1% increase from 2012. To put some context around the growth of collections of pots, tubs and trays, there were 203 Local Authorities collecting pots, tubs and trays in 2011, 114 in 2010 and 59 in 2009 – a 359% rise in 5 years.

Service Provision and Number of Households that Receive a Service

Trying to relate the kerbside collection schemes in place to the precise number of households that receive a service is a difficult task, and this is particularly true with pots, tubs and trays where there is not insignificant number of the schemes in their infancy and the service is gradually being rolled out to residents. However, using the methodology above, these collections now represent 67% of the Local Authorities that operate collections in the UK, and provide coverage for up to 17.7 million of the 26.4 million households in the UK.

Average Kerbside Collection Rates

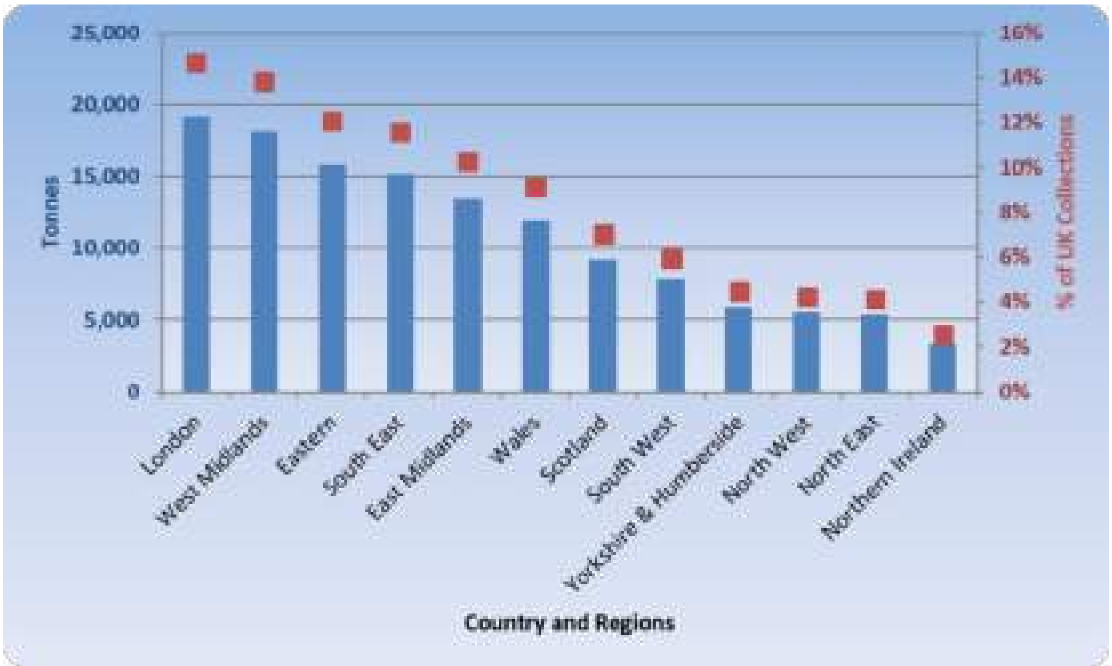
Where a service is provided, the average material collection rate for pots, tubs and trays is 8.46kg. This figure has fluctuated with the rolling out of service provision across the UK, and the average collection rate being reported at 9.82kg in 2012, 10.17kg in 2011 and 8.53kg in 2010. There could be a number of reasons for this, mainly being around the effectiveness and maturity of the schemes and actual number of households covered.

However, where a Local Authority collects plastic bottles and pots, tubs and trays, RECOUP expects the ratio to be 60% plastic bottles to 40% pots, tubs and trays. With the 8.46kg being approximately 70% of the average collection level per household for plastic bottles of 9.83kg, the ratio is considered by RECOUP to be more accurate.

Kerbside Collections by Country and Region

There was a total increase of 14,607 tonnes of pots, tubs and trays from kerbside schemes. The highest total kerbside pot, tub and tray tonnage collected was from London with 19,194 tonnes, representing 15% of the total UK pots, tubs and trays collected from kerbside schemes. Figure 30 provides a breakdown of kerbside plastic bottle collection by country and region.

Figure 30 - Kerbside Pot, Tub and Tray and Average Collected per Household by Country and Region



England accounts for 81.3% of total UK pots, tubs and trays kerbside collections, with Scotland, Wales and Northern Ireland, representing 7.1%, 9.1% and 2.6% respectively. As with plastic bottles, these proportions are broadly in line the UK population split, and again, Wales are collecting more than would be expected for their population.

Plant Pots

It has become increasingly apparent that plant pots are being collected as part of some Local Authority pot, tub and tray collections. Although plant pots have not traditionally fitted in the main categories of rigid items of plastic bottles, and pots, tubs and trays, because many plant pots are made from PP they could be accepted items by the MRF that handle the materials from kerbside collections.

However, it appears there is a confusion about whether plant pots are classified as non-packaging or not depending on what the pots function is.

The current ruling from the Environment Agency is that plant pots are classified as packaging except when they are biodegradable and intended to be planted with the plant, or when 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.

In the 2014 Survey it is assumed for the Local Authorities offering a kerbside collection service that the collection data is included in their overall pot, tub and tray reported figures.

Plastic Film

It can be confirmed there are now 76 Local Authorities in the UK that collect plastic film from the kerbside. This represents an additional 11 Local Authorities that offer a kerbside collection scheme for plastic film than the 65 than offered a service in 2012.

This is now the third Survey which has asked for data relating to its collection from the UK household waste and recycling systems. As has been referenced in the Methodology & Reporting section, many Local Authorities report tonnages for all recycled materials or all household plastics packaging, and the relatively small levels of plastic film are included in these totals and it is not possible to extract enough accurate data.

However, it has been established that many of these schemes actually use a bag for the collection of recyclables, and only accept carrier bags within the collection and no other plastic film. If a Local Authority is considering the collection of film through their kerbside collections it requires thorough communications through the recycling chain. There are a number of practical barriers which prevent film being compatible with many existing UK collection and MRF systems, and 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.

Although it is believed much of the household film is baled and exported for reprocessing or used in Energy from Waste facilities, there are developments in the UK which are starting to look at the recyclability of this material, and a RECOUP member, PlasRecycle has built the UK's first dedicated plant for recycling post-consumer carrier bags and films collected from kerbside services.

Founded in 2010, the first plant opened in September 2013 and reprocesses the plastic film to produce a clean plastic granulate that can be used for manufacturing new bags and other products.

It can process around 20,000 tonnes per annum of post-consumer films and bags, equivalent to 2.5 billion HDPE shopping bags each weighing 8g, or 600 million LDPE shopping bags each weighing 33g.

RECOUP will follow PlasRecycle's progress with interest. RECOUP will also continue in its efforts to report better collection data and developments for recycling plastic film, although it may require specific sponsorship to be able to undertake the level of research and detail to provide the true current picture of activities in the UK.

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. Therefore in the 2014 Survey a question was asked for the first time about what non-packaging plastics are being collected, and a total of 31 Local Authorities (or 8%) stated they offer a service.

Although these items do not fit in the main categories of rigid items of plastic bottles, and pots, tubs and trays, they could be accepted items by the MRF that handle the kerbside collections. However, it appears there is a great deal of confusion about what items are classed as non-packaging. The example with plant pots has been referenced on page 38.

Other than plant pots, items that have been mentioned that are collected in the kerbside service include:

- Small WEEE (Waste Electrical and Electronic Equipment) such as kettles, toasters and MP3 players
- Plastic cups

As with plastic film RECOUP will also continue in its efforts to understand collection infrastructure, collection levels and developments for what could be classified as non-packaging plastics.

Bring Schemes

Bring schemes are containers located in public locations such as supermarket sites and car parks, where the public can place their recyclables. They were the original method for collecting plastic bottles. According to the reported data one fifth of all bring schemes running today set up between 2000 and 2003.

With the majority of plastics now collected from kerbside schemes they are generally used by Local Authorities alongside kerbside schemes to form part of 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 kerbside service might not be available to all residents, such as in rural communities or high rise or dense population areas.

For those thinking about the decision to introduce, retain or withdraw a plastics bring scheme, 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 resident needs and public demand for the service, and an overflow for people on fortnightly refuse collections or have limited kerbside collection container capacity and cannot fit all their plastic items in the kerbside collection container. Another reason given was that bring sites can also be used as a short term option if there were any problems with operating the kerbside service.

Service Provision

The 2014 Survey can confirm that 245 (60%) of the 406 collection Authorities in the UK reported they provide a bring scheme to collect plastic bottles. This represents 11 fewer Local Authorities in 2013 offering a bring service for plastic bottles than the 256 that were reported in 2012.

In 2012 there were 256 Local Authorities that offered a bring service, 262 in 2011 and 260 in 2010. It appears that one Local Authority may remove the service, another might introduce a service to their residents, and RECOUP expect the current service provision to remain stable.

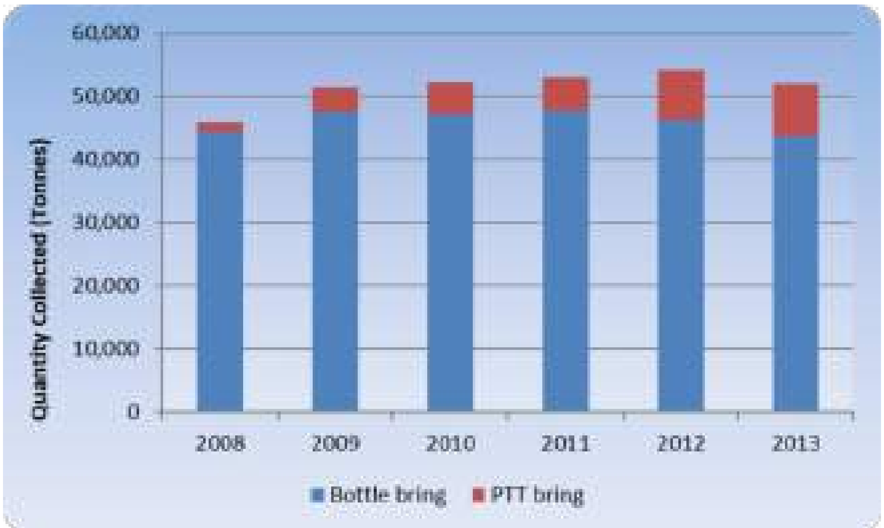
It has also been confirmed that from the 245 Local Authorities that offer a bring service, 90 (37%) also collect pots, tubs and trays. This represents an additional three Local Authorities that reported they were offering a collection in 2013.

Collection Levels

Bring scheme provision across the UK has experienced minor fluctuations in recent years and it is clear that the tonnage of plastics collected from bring schemes has stabilised based on the last six years.

In total 51,558 tonnes of plastics were collected through bring schemes in 2013, which consisted of 43,748 tonnes of plastic bottles and 7,810 tonnes of pots, tubs and trays.

Figure 31 - Collections from Bring Schemes 2008-2013



However, in 2013 there was an overall 2,516 tonne reduction in reported collection levels. This decrease from bring schemes could reflect the growing trend of this material being collected together with kerbside collections and thus being included in the kerbside total.

It should be noted that these tonnages can incorporate reported data for plastics packaging collected through Household Waste and Recycling Centres (HWRCs) run by waste disposal Authorities, and also recycle-on-the-go collection facilities and reporting tonnage collected from bring schemes is a particular issue for some Local Authorities. This is because they can be integrated with kerbside or recycle-on-the-go services, and therefore individual weights for these services are not recorded separately.

As referenced on page 19 there has been a steady increase in recycle on the go provision, and it has been estimated that 10,000 tonnes of this material is collected for recycling which has been included in the bring collection tonnage.

Bring Collection Containers

There are well-established types of collection container used for plastic bring collections, with the main 7 container types shown in Figure 32. The estimated plastic bottle capacity is also shown, which is based on 600 plastic bottles per cubic metre. The most established type of unit is the 1,100 litre wheelbin followed by the 10 cubic yard bank. In addition, Local Authorities have stated they use other types of bring containers, including the increasingly common 1,280 litre wheelbin, and also use more than one type of unit. This is particularly the case with Local Authorities that use skips at larger Household Waste Recycling Centres and smaller containers at additional bring sites. The choice for a unit type and size will be dependent upon specific needs such as tonnage collected, type of site, the collection vehicle and the frequency of use by householders.

Figure 32 - Bring Container Types used by Local Authorities and Estimated Plastic Bottle Capacity

Type of Container	Approximate Capacity (m^3)	Estimated Plastic Bottle Capacity
10 Cubic Yard Bank	7.65	4,590
8 Cubic Yard Bank	6.12	3,672
1,100 Litre Wheelie Bin	1.10	660
360 Litre Wheelie Bin	0.36	216
240 Litre Wheelie Bin	0.24	144
Skip	9-36	5,400-21,600

The sites using larger capacity container types tend to collect higher quantities of plastic bottles. For example, single net cage and 10 cubic yard bank systems have large capacities and also report high recovery rates. While, dependent upon use, these larger container types should require less frequent servicing, they are not suitable for all bring sites, particularly where space or access is limited. However, there are other benefits of using a net cage system, such as avoiding the need for a bespoke collection vehicle.

Smaller capacity units are often used where a comprehensive network of bring sites and units are in place. This would make it more convenient for householders to access the service, but in making this provision available there would be smaller volumes collected at individual sites, and a more frequent servicing level required.

Non-Packaging Plastics

Bring collection schemes for non-packaging are gradually being introduced, and there is continuing evidence non-packaging plastics (such as plastic furniture and toys) are being collected from bring schemes. However, at present there is not enough collection data available for this material, and this is explored more in the Household Waste Recycling Centres (HWRCs) section on pages 42-43.

Household Waste Recycling Centres

Household Waste Recycling Centres (HWRCs) also collect plastics for recycling. These collection points are available to the public alongside wider services for the disposal, recycling or re-use of a wide range of household materials and items. These public sites are under the responsibility of the waste disposal authority which is often a separate authority such as the County Council.

HWRC sites offer only supplementary collection points for items such as bottles and pots, tubs and trays which are collected at kerbside. They are also the primary point for those plastic items not compatible with kerbside services such as non-packaging plastics, bulky goods and other related household plastics.

What Is Being Collected at HWRCs?

From the responses received, it was confirmed that many of the HWRC sites provided collections for plastic packaging items. The exact fractions accepted were generally aligned with those accepted within the kerbside scheme operating in the areas identified. From over 120 responses for each question, 46% (59 Local Authorities) confirmed the HWRC in their area collects non-packaging plastic for recycling, 44% (54 Local Authorities) provided some form of paint pot collection, and 30% (37 Local Authorities) accepted plant pots. It was also found that there were very few plans to introduce or expand the existing services offered for plastic collection at HWRC sites.

Collection Services for Paint Pots

The 54 Local Authorities that confirmed they have a paint pot collection scheme in place can be mapped closely with the Community Repaint Initiative which has collection hubs across the UK. A quarter of these sites claimed to separate the metal and plastic paint pots onsite. Only one from 60 responses identified plans to offer a new paint pot collection point, but 25 Local Authorities confirmed that they would be happy to receive industry support to help introduce a commercially viable scheme.

These items are inherently valuable both in terms of any paint that can be recovered, and the pots themselves which are ideal for recycling when empty. More work is needed in 2015 to establish good practice measures in the collection, handling and reprocessing of plastic paint pots from HWRC sites.

Collection Services for Plant Pots

The plant pots, also commonly referred to as flower pots in communications, are typically being collected in 37 Local Authorities at HWRC sites where a generic pot, tubs and tray collection was being offered. This is appropriate given that the empty plant pots are mostly made from PP which is also common within the pot, tub and tray fraction.

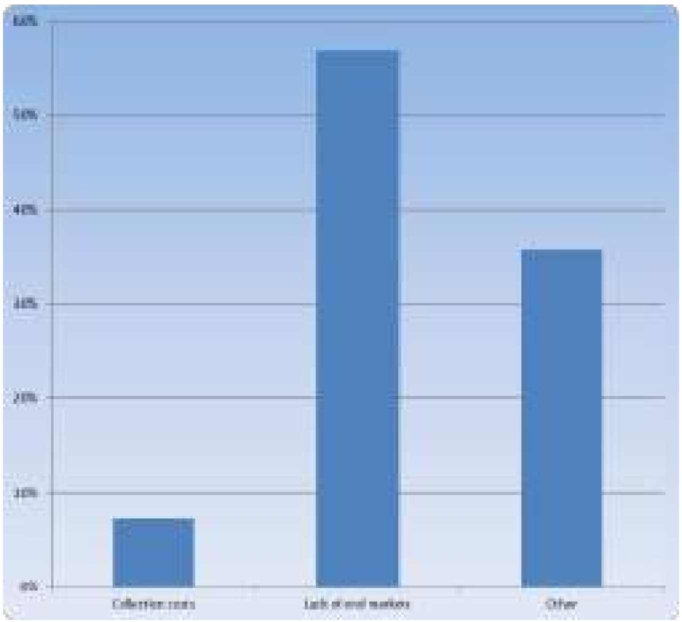
Whether the plant pots are specifically accepted as part of a pot, tub and tray collection service is an issue which requires further review as identified in the kerbside section of this report.

Reasons for not Offering a Plastics Collection Service at HWRCs

From 109 responses overall, it was confirmed that lack of end markets for the plastic fractions was often the limiting factor to introducing plastic collection services. The second most common issue was lack of space at the site for a separate collection skip, captured within the 'other' category of responses.

This suggests that demonstrating and promoting sustainable and commercially viable end markets for the fractions identified will encourage more HWRC collection infrastructure for plastics in future years.

Figure 33 - Reasons for not Offering an HWRC Service



When reviewing the specific fractions, lack of end markets was always the most common issue. This is understood for bulky items where other materials, particularly metals, can be present for example in furniture or children's toys. Specifications for this fraction will help to understand market limitations, and possibly lead to improve product design to enable easy dismantling for recycling or repair. There are already a number of sites that do collect this fraction for recycling, so further research into these systems and the markets used can also be further explored.

Plastic paint pots are inherently recyclable and made from PP, so the market issues highlighted are expected to relate to the items needing to be empty before reprocessing. This raises some specific challenges for the paint pots.

It is more surprising that plant pots are limited by a lack of end markets according to the data. From separate RECOUP research, it is known that UK PP reprocessors already handle some plant pot material mainly from commercial schemes, and are also happy to accept clean empty plant pots from households as a part of a general household PP pot, tub and tray mix. In reality, some level of empty plant pots from households will already be collected in existing pot, tub and tray collection services for recycling.

Material Values

Plastic bottles still make up the majority of the plastics entering the UK household waste and recycling systems, and represent an estimated 70% of household plastics packaging collected. With the established infrastructure to recycle plastic bottles in the UK they also have the greatest market values.

Although collections for pots, tubs and trays have increased significantly in recent years, it is well documented that the inherent recyclability, values and end markets in pots, tubs and trays are yet to develop in the same way as plastic bottles. Although the majority of pots, tubs and trays are simply baled as mixed (sometimes with bottles) and sold to available export markets, now there is a growing number of Plastic Recycling Facilities (PRFs) accepting and separating this material. Viridor's new PRF in Rochester and Veolia's PRF in Rainham are excellent examples.

Viridor PRF in Rochester Undergoing Construction

Like any commodity, the values for plastics fluctuate over time and are dependent on a number of conditions, with a particular focus always on quality levels and based on baled material delivered to a plastic reprocessor (the recommended bale size is 1.8m x 1.2m x 1m - larger bales are considered too big to be handled by bale-breaking equipment and difficult to transport and store).

Plastic Bottles

Plastic bottle collections tend to focus on the collection of all plastic bottle formats, which mainly consist of PET drinks bottles and HDPE milk bottles, but there are small amounts 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 Lets Recycle material price index (www.letsrecycle.com) one tonne of mixed plastic bottles typically attracted an average price of £65 per tonne in 2013, thus the 325,945 tonnes collected for recycling represented a potential value in 2013 of approximately £21 million, with real prices ranging from £9m-£33m based on tonnage prices of £29-£102 respectively. This reflected the reduction in mixed bottle values from 2012.

So how do these values equate to the total collection tonnages in 2013?

A total of 226,507 tonnes of plastic bottles from UK households were not collected for recycling in 2013. If this is combined with an estimated average of 22,000 plastic bottles per tonne, 4,983,154,000 (nearly 5 billion) household plastic bottles were not recycled in 2013. This creates a compelling business case:

- Using the average £65 per tonne mixed bottle value, the un-recycled bottles would have a potential average value to reprocessors in 2013 of **£15m.**
- Based on the median landfill tax and gate fee for non-hazardous material of £93 per tonne, these bottles would cost **£21m** to dispose of in 2013.

It should be noted that approximately 10% of bottles in the residual fraction will go to Energy from Waste (www.bpf.co.uk/sustainability/efw.aspx), 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 **£36m** benefit to disposal Authorities in the UK versus the current situation today. With landfill costs continuing to increase in the coming years and the increased appetite from reprocessors for baled plastic bottles, the financial benefits to increase collections of plastic bottles are clear.

This figure is less than **£44m** stated in 2012, and emphasises the fluctuations in plastic bottle values. However, either figure represents a significant amount, and sends a clear message that there is a strong market value for post-consumer plastic bottles.

It should be highlighted that these prices are for mixed plastic bottles, which can vary depending on the levels of clear PET and natural HDPE bottles. To give a comparison of the prices for a tonne of clear PET and natural HDPE bottles, average prices ranged from:

- Clear PET - £210-£270, with an average of £242 (a £30 reduction on 2012)
- Natural HDPE - £285-£345, with an average of £313 (about the same level as 2012)

This clearly demonstrates the potential additional value of sorted clear PET and natural HDPE bottles, although of course this needs to be balanced against the additional sorting costs incurred to achieve these higher values.

Pots, Tubs and Trays

The value of pots, tubs and trays depends primarily on the level of contamination and Polyolefin content (PP and PE plastics), and they are generally speaking not attracting positive values, and as such there are negative values for pots, tubs and trays referenced in the Lets Recycle trade price index. Any higher prices 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.

As the quality levels, markets and values for pots, tubs and trays are yet to develop in the same way as plastic bottles, it is not realistic to put a potential figure on the benefit of collecting the 652,800 tonnes entering the household waste and recycling systems. However, for illustrative purposes, with increasingly high landfill costs, what we do know is that the estimated cost of landfilling or treating the pots, tubs and trays placed in residual bins in 2013 is significant. With the values not yet realised for the 140,000 tonnes of pots, tubs and trays that were collected for recycling in 2013, some examples of the benefits of avoiding landfill for this material are shown below:

- If all the estimated 665,856 tonnes of pots, tubs and trays consumed were disposed of in 2013, based on the median landfill gate fee for non-hazardous material of £93 per tonne, the disposal costs would be **£62** million per annum
- If the estimated 527,368 tonnes of pots, tubs and trays that were not collected for recycling in 2013, based on the median landfill gate fee for non-hazardous material of £93 per tonne, would incur disposal costs of **£49** million per annum.

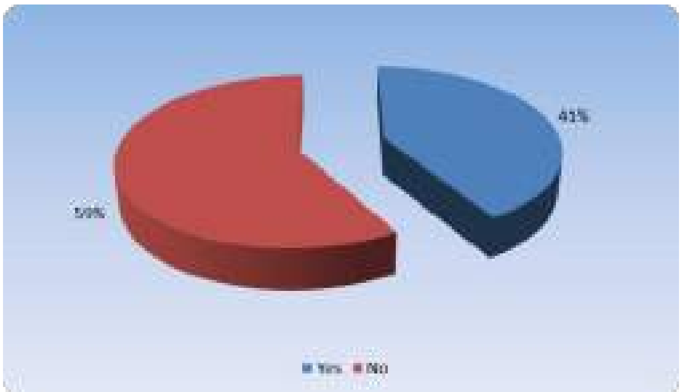
Therefore the actual cost of disposal is somewhere between **£49m** and **£62m**. In addition to landfill avoidance the business case for collecting pots, tubs and trays will develop. With new sorting facilities for pots, tubs and trays being commissioned and end markets slowly developing, actual values should be gained per tonne, and consequently the financial benefits to Local Authorities for collecting pots, tubs and trays will increase.

Material Quality

RECOUP have a long held belief there is a direct relationship between both the quantity and quality of the plastics collected for recycling and having a detailed knowledge of the plastic sales chain, reprocessor requirements and end market applications. Material quality dictates the value of plastics and is critical for sorting and reprocessing facilities to function on a commercially viable basis.

To get an overview of the scale of the quality assurance processes in place, Local Authorities were asked about how they monitor the quality of the plastics collected. There were nearly 200 responses to this question, and it was reported that 80 (41%) of Local Authorities monitor the quality of the plastics that are collected, and 113 (59%) do not. This represents a 6% reduction for those who monitor the quality of their plastics material than the previous year. However, it should be noted the majority of those who do not monitor quality are passing responsibility to their service contractor, and maybe this is an ongoing trend, particularly with the anticipated implementation of the MRF Code of Practice.

Figure 34 - Local Authorities Monitoring the Quality of Collected Plastics



MRF Code of Practice

Many Local Authorities that check the quality of the collected material do so by visual inspections (from the collection crews for kerbside sort or when the material is placed in the MRF), or material composition analysis from the MRF. Material composition analysis is becoming increasingly common to check the quality of the collected material, and this can also be used to provide data so that communications and guidance with residents can be targeted to problem areas and improve the quality of the recyclate.

However, there is now a legislative driver that is designed to assess and improve material quality standards. In February 2014 Defra produced its final version of the MRF Code of Practice for England and Wales, which is due to come into effect at the time of publishing this Survey (December 2014). The Code requires MRFs processing more than 1,000 tonnes of dry recyclate per annum to measure and report the quality of its input and output and residual waste streams every three months, with the results being made available to the Local Authority and those collecting the material as well as recyclers buying the material.

This in practice means MRF operators must measure the weight in tonnes it receives, and then take samples of material from each supplier and measure the composition of the material. Output samples must be taken for every 20 tonnes of plastic material produced by a MRF before October 2016 and 15 tonnes after October 2016.

The overall aim is to increase the quality that is supplied to recyclers, and although there are costs to implement this system Defra's opinion is that it should ultimately reduce material going to landfill (and the associated costs) and increase revenues from the collected material. This would be a direct benefit for Local Authorities involved in receiving revenues from material sales, whether it be as a sole beneficiary or through a profit sharing scheme.

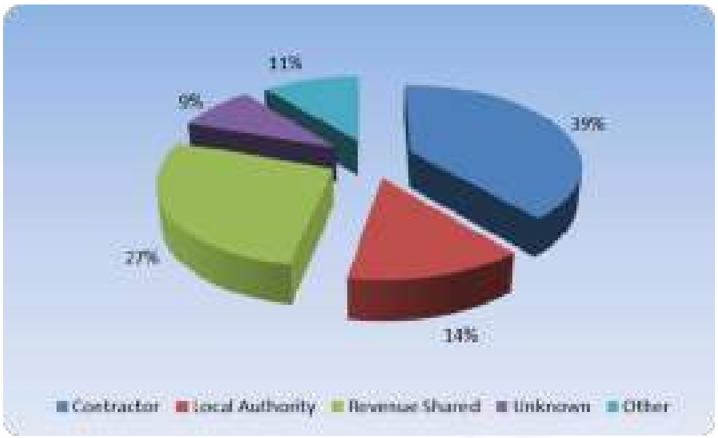
Defra has also stated there are no minimum standards for the material produced at MRFs, instead allowing the market to determine what standards are required. It should also provide a transparent system to drive quality improvements and provide consistency in material quality across the recycling chain.

Material Sales

A strong driver for improving quality for those in the recycling chain can be who receives the revenue generated from the sales of collected plastics. From nearly 200 responses it was found the contractors received the highest percentage of revenue from the sales of collected plastics at 39%, with 14% of Local Authorities solely receiving the revenue. 27% of Local Authorities shared the revenue with the contractor therefore a combined 66% going to the contractor in some way.

These percentage figures represent a slight increase from the 2013 Survey on the percentage of Local Authorities receiving the revenue both directly and from shared revenue, although this is not significant enough to make assumptions about contractual arrangements in the long term. Although there is a mix of partners in the recycling chain that benefit from the revenue of sales of post-consumer plastics, there are clear financial benefits and drivers to improve material quality for Local Authorities and contractors alike.

Figure 35 - Who Receives the Revenue from Sales of Collected Plastics?



End Markets

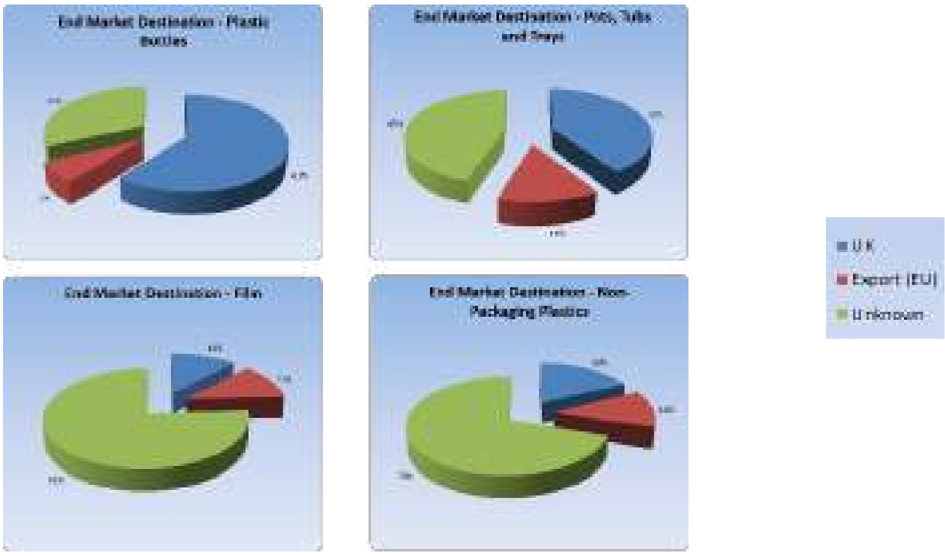
UK or Export?

To develop an understanding of the flow of plastics that are collected and their end markets, Local Authorities were asked to indicate where their plastic material was sold. To clarify, 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, and they are not necessarily the manufacturer of the second life products.

From nearly 200 responses, the end markets for plastic bottles in the UK has strengthened, with 61% of Authorities finding a UK based destination (up by 4% on 2012 data). This reflects the steadily growing domestic market for plastic bottles and increasing demand from UK reprocessors.

The same increase of 4% also applies for pots, tubs and trays, with 41% of Authorities finding a UK based destination for the plastic format. However, the biggest response to this question was that 45% do not know the ultimate destination for the pots, tubs and trays. Unsurprisingly, this unknown fraction dramatically increases for plastic film and non-packaging plastics to 76% and 70% respectively. This is seen as realistic, as it is difficult to understand what is and what is not a UK market for non-bottle material as RECOUP believe that the UK market is really an intermediary that sells to export.

Figure 36 - End Market Destination for Collected Plastics



If these totals were collated across all four plastic formats:

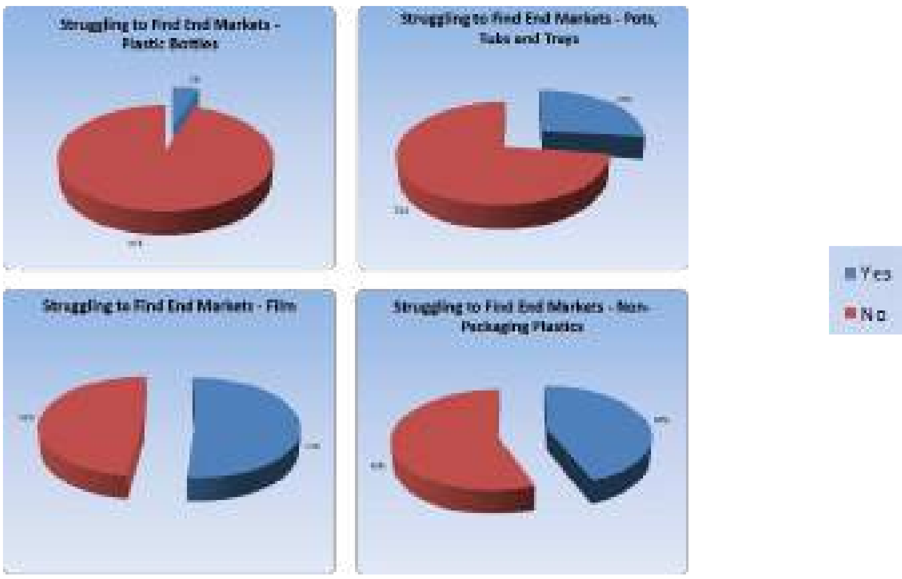
- 33% UK based destination
- 11% exported
- 56% unknown end destination

In addition to this, the general high level of unknown end markets is most likely to be that the responsibility for sale lies with the service provider rather than the Local Authority, or indeed that the Local Authority may not want to declare it. That said, it has continued to be difficult to provide accurate data on UK versus export end markets. RECOUP estimate that the ultimate destination of plastics is largely the same as 2012, with approximately 50%-70% of plastics collected in 2013 being export, and 30%-50% staying in the UK for reprocessing. It is worth stating that the inherent value of the plastic bottles will lead to them being recycled, irrespective of the destination of the end market.

Struggling To Find End Markets?

With strong markets for plastic bottles, and slowly developing or limited markets for non-bottle material, a question was asked in the Survey about whether Local Authorities were struggling to find end markets.

Figure 37 - Struggling to Find End Markets



Plastic Bottles

With the strong UK and export markets for plastic bottles predictably 95% of Local Authorities did not have issues with finding end markets for plastic bottles, and the 5% who did struggle to find markets had issues through their supply chain. The message is that plastic bottles continue to be in high demand – the real issue to getting the best price for the collected material.

Pots, Tubs and Trays

Despite the current low demand for pots, tubs and trays it was slightly surprising that 73% do not struggle to find a market. However, it is expected for the Local Authorities collecting pots, tubs and trays 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. However, it is known that some reprocessors will not accept baled plastic bottles when they contain even a relatively small proportion of pots, tubs and trays. This reduces the consistency of material to end markets, and emphasises the importance of increasing bespoke sorting technology to deal with the ever increasing fraction of pots, tubs and trays.

Of course, the collection of pots, tubs and trays is very much still in its infancy in comparison to plastic bottles, and although new Plastic Sorting Facilities (PRFs) are starting to operate to separate various grades of mixed plastic bottles and pots, tubs and trays, there are limited markets that are able to pull this material through the recycling chain with any benefit apart from it not being subject to landfill tax.

However, RECOUP has been working on a WRAP project that has been running a number of technical trials to use PET trays in a range of applications, and results of this work will be published in early 2015.

Film and Non-Packaging Plastic

There are similar fractions for plastic film and non-packaging plastics with around 50% struggling to find a market for each.

The necessary technologies, recycling infrastructure and associated end markets in the UK are not developing fast enough to meet the increased demand for the harder to recycle plastics. This coupled with the legacy of the Chinese Green Fence policy in 2012-2103 and the restrictions of the quality levels of the plastics it receives. There are also risks around exporting film and non-packaging plastics as it is subject to the same risks of being rejected as any other low grade and/or contaminated material.

RECOUP, their members and the recycling industry are continuing to communicate this issue to decision makers and lobby for changes to provide investment to tackle these ongoing market issues.

Great Products from Recycled Plastics

Within the Pledge 4 Plastics steering group there is a strong belief that if householders were aware of the range of applications and products recycled plastics could be used in, this could be a strong influence on recycling requested plastics and reduce contamination from unrequested items. The consumer message is both of the diversity of the products and also the high end nature of a number of products that post-consumer plastics can be used in. This was carried through into one of the key Pledge 4 Plastics messages with the simple message that “great products that can be made from recycled plastics”.

There is also clear market appeal and organisational benefits. Recycled plastics can totally or partly replace virgin material, reduce manufacturing costs and deliver an environmentally enhanced product. This can directly contribute to a product’s green credentials, thus increasing its market appeal. It can also add to a company’s environmental credentials such as in carbon footprint reductions, lifecycle analysis benefits or in developing its corporate social responsibility agenda to boost both profits and improve consumer’s perceptions of the company.

RECOUP and Pledge 4 Plastics will continue to promote the use of post-consumer plastics both to the consumer and businesses alike.

Message from LARAC

By Dave Thomas, LARAC Officer

Have you ever underestimated the power of social media? I used to be quite sceptical of it until my first sortie into Facebook, when I spent what seemed an eon laughing at my computer as old friends popped up, reminiscing, as you do. Then came a foray into Twitter, a whole new ball game for me, not really understanding the hash tag thing, but I gave it a go. I've even progressed to making a pledge to recycle one more plastic bottle a week using #Pledge4Plastics, this is where you start to see the potential of social media.

With the UK Government setting the packaging industry challenging targets for 2013-17, coupling this with proposed new EU directives, it means recycling rates for plastics packaging needs to almost double by 2017 and rise again, with a ban on landfilling recyclable plastic by 2025.

Industry and retailers have to give Local Authorities the tools to increase participation either through direct support, infrastructure, funding, or some other appropriate way. This is where Pledge 4 Plastics comes in. Launched in early September, this new national recycling campaign has identified that increasing household plastic packaging recycling 'will be pivotal to achieving these targets' and that, without intervention, the UK will 'fall short' meaning costs to businesses for recycling plastics packaging would rise.

The Pledge 4 Plastics campaign, led by RECOUP, a member based plastics packaging organisation, is supported by a range of cross sector partners. It has three key objectives to achieve: increase awareness of the need to recycle more plastic packaging; increase consumer understanding of the plastics that can be recycled through existing/new Local Authority kerbside collection services and increase the percentage of people who say they recycle all of the plastics they can, based on the local collection services provided.

To help provide a 'consistent' message about plastic packaging recycling, the campaign has developed a toolkit (which can be downloaded from the Pledge 4 Plastics website), including template communications artwork (such as posters, online adverts and public transport adverts), as well as facts and figures about plastic packaging recycling, and background. It has been sent to all Local Authorities in the UK and stakeholders, including brand owners, retailers and environmental bodies, in the hope that they disseminate the plastic recycling message.

You can support Pledge 4 Plastics by pledging on pledge4plastics.co.uk, following on Twitter (@pledge4plastics) or Facebook (pledge4plastics), or using the material in the Toolkit to promote the messages on your communication channels.

Finally, LARAC would again like to support the RECOUP Household Plastics Collection Survey. With the focus of improving recycling rates firmly on plastics, it reports where we are and where the industry will need to be and is an excellent reference document for those involved in improving household recycling collections.

Did you know?

Half of the 33 million current UK internet users use social media daily. Residents of the UK were also found to be the second most prolific social network users in Europe, according to figures from the Office for National Statistics.

Pledge 4 Plastics

It is recognised that consumer education and crystal clear, consistent messages are key drivers to behavioural change and to ultimately increasing household plastics recycling rates.

Consumer communications have very much risen to the fore of strategic thinking. Ongoing public confusion about what can and cannot be recycled, inconsistent messages, plateauing recycling rates, increasing disposal costs and packaging compliance costs and the need to increase the collection of plastics packaging to meet ongoing targets has sparked the industry to respond.

On 8th September 2014, the government backed cross industry national plastics recycling communications partnership, Pledge 4 Plastics, was launched. Led by RECOUP, it is supported by partners across the many sectors, from primary packaging manufacturers, brand owners, retailers, Local Authority waste partnerships, plastic recyclers, and environmental and packaging compliance organisations.

The thinking and planning behind the initiative goes back to the 2013 RECOUP conference, and over the following months the founding partners worked hard to create a platform to develop and tackle the ongoing issues the UK packaging and recycling industries are facing.

A story on BBC Breakfast News in June provided a good lead in to the launch, highlighting the confusion and need for manufacturers and retailers who make and sell products in plastics packaging to work with Local Authorities who collect it for recycling. Even a Government Minister was confused by whether he could recycle his pots, tubs and trays or not!

There is a huge future challenge, but the challenge for the steering group from the start was equally significant, and focussed on how to maximise the modest budget effectively.

The first action for the group was to undertake a comprehensive plastics recycling research study that was designed to underpin all the initiative's activities and messages. Then a two pronged approach was taken to meet two very distinctive needs:

- A high profile national PR launch was designed to create wide awareness of plastics recycling
- A communications toolkit, a very practical point of information designed to provide a suite for resources needed to run a plastics recycling campaign

"The UK has made tremendous progress on recycling over the last 10 years, building a stronger circular economy and greener society, and this reflects a lot of hard work from industry and Local Authorities, alongside a desire from residents to do more. This is another great initiative to boost the recycling of plastic packaging which has our full and ongoing support – I've already made my pledge and encourage others to sign-up to do their bit." **Resources Management Minister, Dan Rogerson**

Consumer Insight Research

To understand behaviour and barriers to plastics recycling the consumer insight research was undertaken with Icaro Consulting and this led to *Understanding Barriers to Plastic Recycling – A Consumer Insight Study* which was published in March 2014. The research was undertaken online with 4,000 adults aged 18+ in the UK representing views from England, Scotland, Wales and Northern Ireland with quotas set on age, gender and work status.

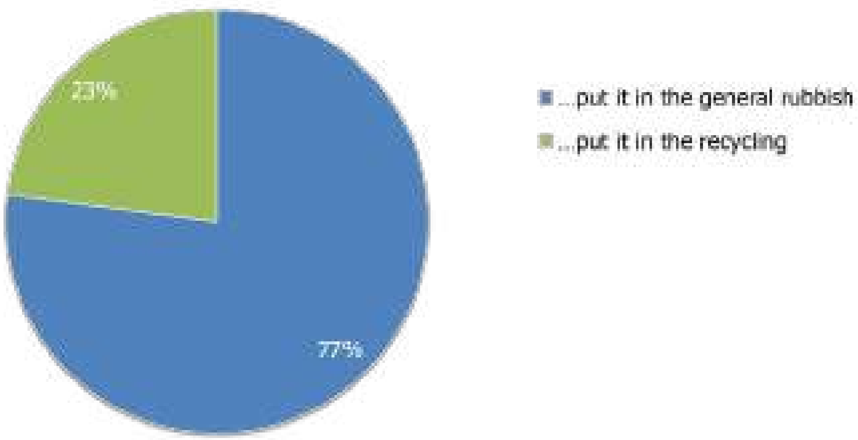
The results confirmed the confusion that was surrounding plastics. Plastics made up a staggering 63% of materials consumers were unsure about. As a comparison, only 7% were unsure about certain kinds of glass, 7% about certain kinds of cardboard and 6% about lids and tops. This gave the initiative a precise and realistic picture of the UK to work from.

Figure 38 - The Confusion Around Plastics

Top mentions (unprompted)	% people saying they're unsure
Plastic pots, tubs & trays	18%
Plastic	17%
'certain plastics'	17%
Plastic wrap/film	7%
Glass	7%
Cardboard	7%
Lids/tops	6%
Plastic bottles	4%
ANY MENTION OF PLASTIC	**63%**

There was also a significant amount of material leaving consumers guessing what should or should be recycled. If people were unsure, three quarters of consumers would actually place the item in the general waste bin. The messages need to be clearer for consumers.

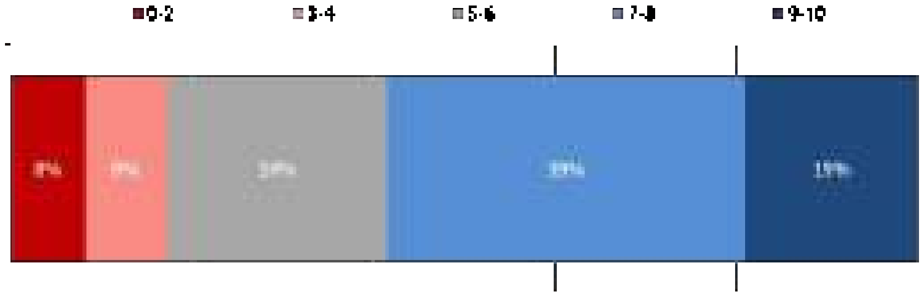
Figure 39 - Scores for how Clear Instructions are to Recycle Plastics Packaging



There is significant scope for improvement in terms of clarity of council's communications on plastics recycling.

When asked to give their council a score out of 10 of how clear the instructions were for recycling plastics packaging one in five (19%) gave an ideal score (i.e. very clear) and a slightly larger proportion (39%) gave a score of 7-8 (i.e. fairly clear). The area of concern was around one in four (24%) only gave a score of 5-6, while 17% gave a score of four or less. This gives an average score of 6.5 out of 10. Whereas it cannot be established how the messages for the lower scores are being misinterpreted and why, it backs up the message about the general level of confusion around plastics packaging recycling.

Figure 40 - Scores for how Clear Instructions are to Recycle Plastics Packaging



One of the most compelling learnings from the insight research was the appetite from consumers to find more about how recycling works and what happens after it is collected for recycling. Around a quarter say they know a fair amount about what happens to plastics once it has been collected for recycling, but nearly three quarters (74%) are 'very' or 'fairly' interested to find out more. The initiative is designed to inform stakeholders and the general public alike about the recycling journey of their plastics packaging and demystify some of the myths that are regularly promoted in the national media.

The summary report and full results can be downloaded for FREE at www.recoup.org/downloads/consumerinsight

Key Messages for the Consumer

The baseline research gave solid foundations for the initiative's activities, but also the key messages.

With all UK Local Authorities providing service provision for recycling of plastic bottles, the Pledge 4 Plastics national message focussed on plastic bottles. As reported in the *2013 UK Household Plastics Collection Survey,* with the household plastic bottle recycling rate of only 58%, there is vast potential for increased collections.

Plastic Bottles from Every Room in the House

Irrespective of collection service provision, there is a recognition about the opportunity to improve the consistency of messages which will be key to reduce the confusion that consumers face. So, for plastic bottles, the messages are that it's not just about recycling water and drinks bottles, it includes all types of plastic bottles from every room in the home, ranging from shampoo bottles and shower gels, to domestic bleach and cooking oil bottles. Pledging also covers food pots, tubs and trays (like yoghurt pots, margarine tubs and lasagne trays) and consumers can pledge to recycle these where services exist to collect them.

One More Plastic Bottle per Household per Week

The main driver of the initiative though was collecting more plastics, and it was calculated that if every one of the 27 million household in the UK recycled one more plastic bottle per week it would mean approximately 1,404 million more bottles, or 64,000 tonnes, would be recycled – this would provide a sizeable portion of the increase needed to meet recycling targets.

There is also clear evidence that an action to pledge creates a social norm and can strongly influence future behaviour, and an incentive is an effective tool to attract consumers to pledge. Therefore the call was clear - an incentivised pledge to recycle one more bottle per week, and of course, these bottles could from any room in the house!

To provide consumers with more information about what happens to their plastics packaging once it's placed for recycling, the last key message was that great products can be made from recycled plastics – and this is demonstrated in the communications designs included in the Toolkit.

National PR Launch

To generate consumer engagement and media interest, a celebrity designer was used to design the incentive. To highlight the many ways plastic can be given a new life if recycled correctly and the key message great products can be made from recycled plastics, renowned interior designer, Abigail Ahern, created her first ever bespoke phone cover, which was made from 80 percent recycled plastic bottles. One thousand of the limited edition phone covers were designed exclusively for Pledge 4 Plastics to reward those who pledged throughout the launch on the Pledge 4 Plastics web and social media sites at www.pledge4plastics.co.uk, Twitter @pledge4plastics, or the pledge4plastics Facebook page.

This was also supplemented by research to generate news coverage on the launch day questioning 1,000 people about the recycling behaviour, which found a staggering 60% are indifferent when it comes to their feelings about the environment and one in five don't recycle the commonly recycled fizzy drink bottles or milk bottles.

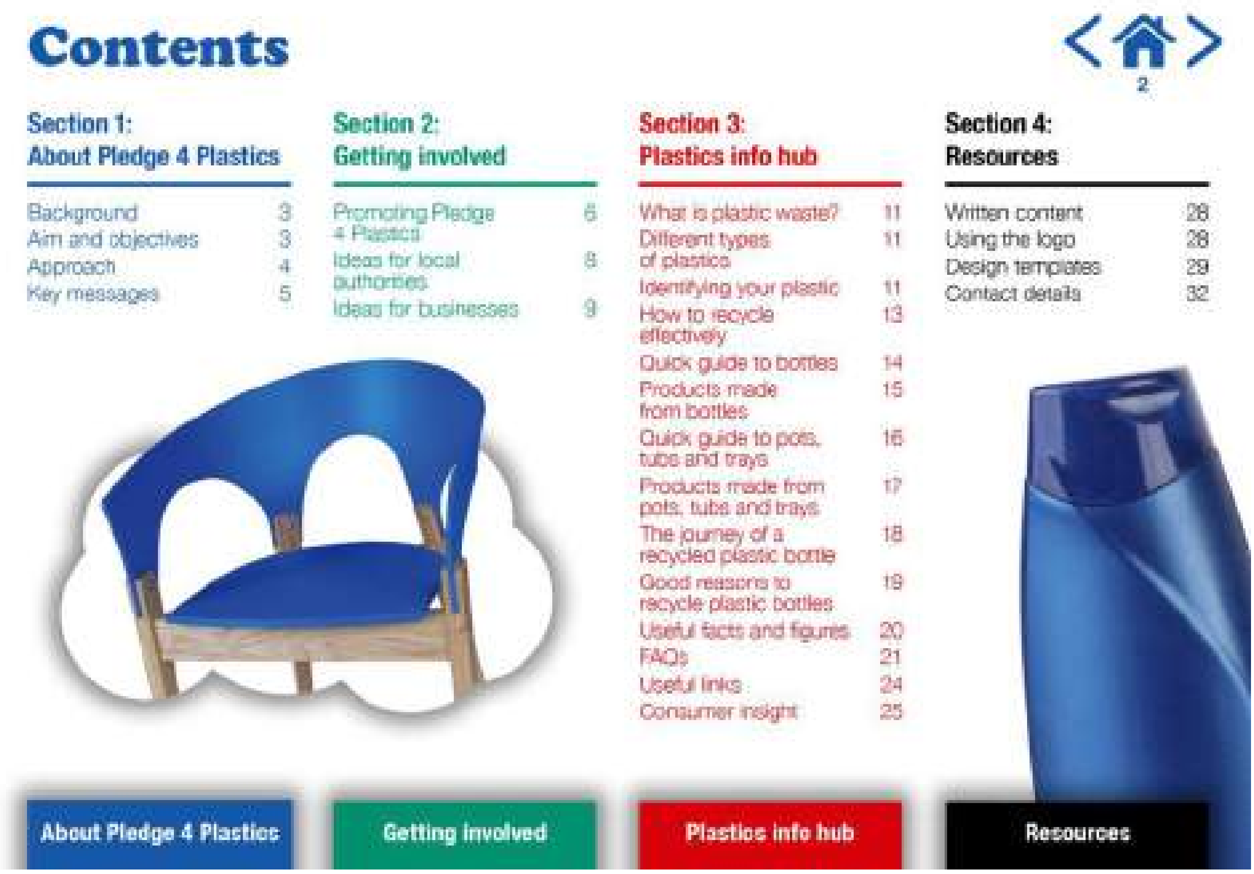
The launch was also supported by a radio day and covered live and recorded interviews across the day with local and regional radio.

"The Pledge 4 Plastics campaign aims to encourage people to think and act differently and rewards them for doing so. We want to highlight how great things can come from recycling plastic. The fantastic phone cover that Abigail Ahern has designed for the campaign is just one example of what can become of recycled bottles." Stuart Foster, CEO of RECOUP

- ✓ Great products can be made from recycled plastic
- ✓ You can recycle bottles from every room in the home
- ✓ Pledge to recycle one more plastic bottle a week

Communications Toolkit

In the 2013 UK Household Plastics Collection Survey the limiting factors cited by Local Authorities when considering a campaign were predictably cost and resources, and having to balance these up against other priorities and offer the core service to deliver a dry recyclables collection service to householders. However, the most useful tools highlighted were promotional items, information/statistics, images and advice. The need was clear.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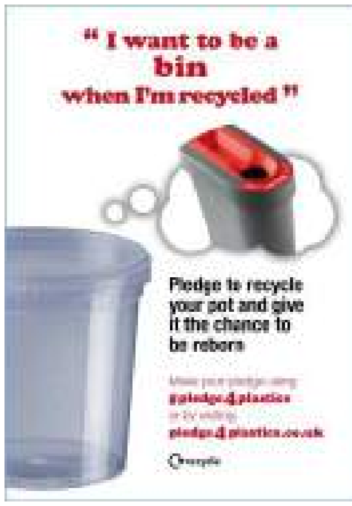
Focusing on these needs, a comprehensive toolkit was developed to provide a suite of resources which can be used by all organisations with the aim to ensure consistency in any UK communications about plastics packaging recycling and run a campaign.

Aimed primarily at Local Authorities and businesses to run a Pledge 4 Plastics campaign the Toolkit included information about the aims and objectives of the campaign, a plastic information hub and how to get involved. This included results of the consumer insight research; key messages; useful facts and figures; frequently asked questions; written content for magazines, newsletters, websites and leaflets; plus template artwork for a range of materials such as A4 and six sheet posters, public transport ads, banners, online ads, leaflet and press ads.

The starting point for the Toolkit was developing a creative approach which could work alongside the PR launch and visually communicate the key messages of taken from the consumer insight research.

Nine creatives were developed with flexible templates for use across all types of media providing a range of plastic packaging that can be requested to be collected for recycling and what it can be transformed into once recycled. This gives Local Authorities a range of options depending on their kerbside service provision.



The toolkit has been sent to all Local Authorities in the UK and a large number of stakeholders including, brand owners, retailers and environmental bodies, and can be downloaded for free from www.pledge4plastics.co.uk/toolkit-download.

Findings from the 2014 Household Plastics Collection Survey

Consumer Messages

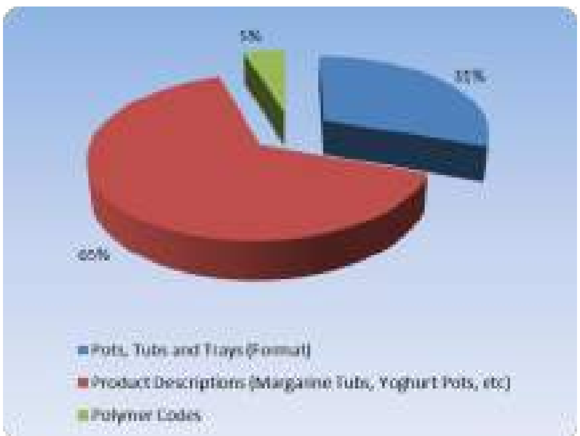
With the importance of communications coming to the fore and how accurate consumer messages can increase collection volumes and reduce contamination, there is evidence the messages are starting to filter through into householder communications.

A particularly good example of this is how non-bottle rigid plastics packaging is referred to, and there has been a shift in the past year. This plastic format is usually referred to in three ways – as pots, tubs and trays, their product descriptions (e.g. margarine containers, yoghurt pots, etc), and using the 7 polymer codes. The most confusing message is identifying plastics by their Polymer codes, which is not at all easy, particularly non-bottle material.

Last year 41% of Local Authorities used pots, tubs and trays, the term endorsed by RECOUP and used throughout this publication, 39% used product descriptions and finally 19% use polymer codes.

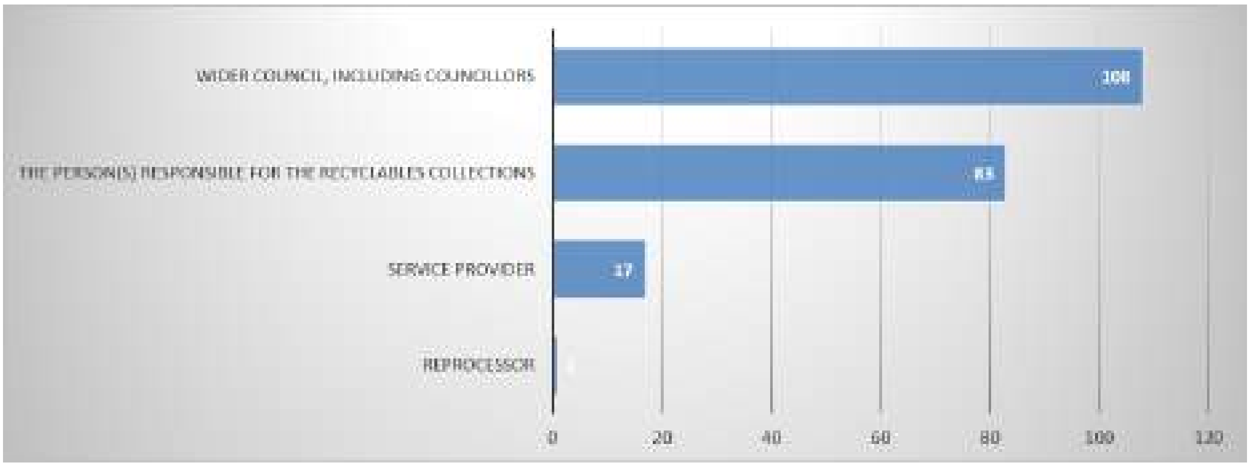
From a total of 167 responses in this year’s survey, there is a definite shift and the predominant communication is now product descriptions (65%), pots, tubs and trays (31%), and only 5% using product codes. RECOUP intend to contact these 8 Authorities about this, but we recognise it is not always straightforward in changing these messages.

Figure 41 - Consumer Messages Used by Local Authorities for Rigid Non-Bottle Plastics Packaging



In a direct question about who decides what messages are given to householders, with 52% of 209 Authorities cited the wider council, including councillors, making the decisions – only 40% of messages are decided by the person responsible for the recyclables collection. Other responses included the service provider (8%) and the reprocessor (1%). RECOUP will continue to advocate where possible to have direct communication with the recycling chain i.e. the technology and resources that will be handling and processing the collected material.

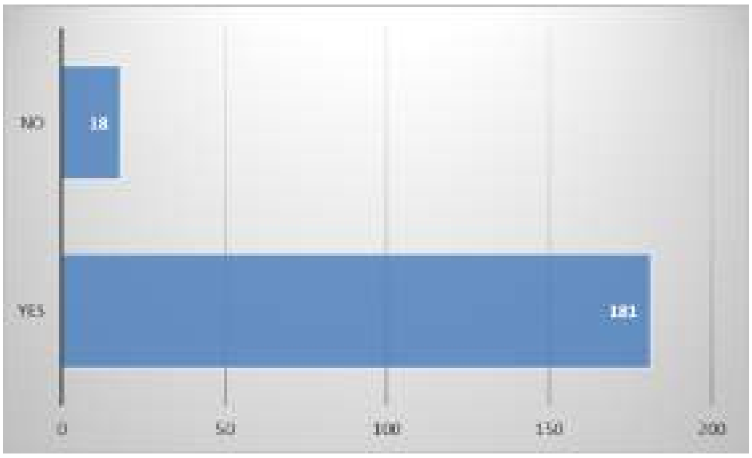
Figure 42 - Who Decides what Messages are Given to the Consumer?



Recycle Now

There is also increased awareness of the Recycle Now iconography and the red logos for plastics as developed by WRAP with 91% of 199 responses from Local Authorities said they were aware of these valuable resources. Recycle Now is a national brand and the iconography is used widely by Local Authorities and retailers, and it is encouraging it enjoys high recognition and understanding in England, Northern Ireland, Scotland and Wales. The logos and iconography are free to download and can be found on www.recyclenowpartners.org.uk website.

Figure 43 - Are you Aware of the Recycle Now Iconography to use on Recycling Communications?



Future Plastics Communications Campaigns to Householders

Some headline questions were asked in the 2014 Survey to gauge interest and also ask about future plans to deliver a plastics recycling communications campaign.

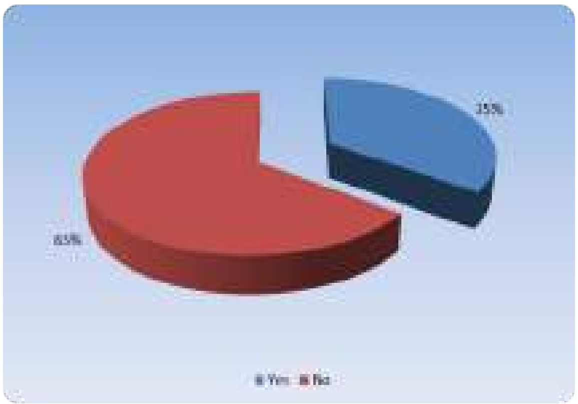
A simple question was asked – would Local Authorities would like to find out more about the Pledge 4 Plastics initiative? From 212 responses 80% said they like to find out more. It should be noted this question was asked before the launch and therefore those Local Authorities that wanted more were able to access it through the media coverage and Toolkit.

Further questions were asked about Local Authority plans and aspirations for plastics communications to their residents.

The results of these questions demonstrates consumer communications for plastics recycling are becoming high on the Local Authority agenda:

- In the 2013 Survey Local Authorities were asked if they were planning a plastic recycling communication and 29 Local Authorities (12%) said yes
- The same question was asked in the 2014 Survey, and 69 Local Authorities (35%) are planning communication to householders

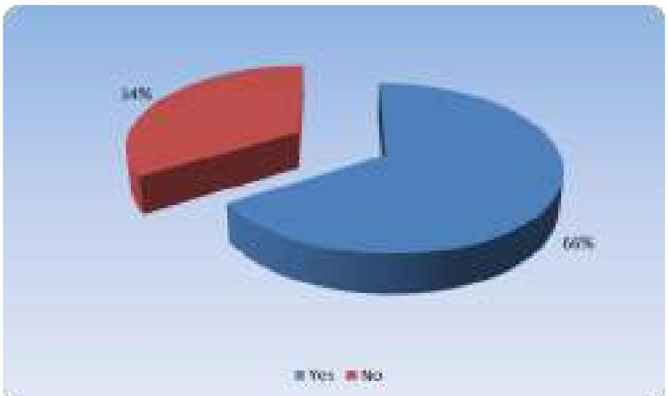
Figure 44 - Local Authorities Planning Plastics Recycling Communications



This question is clearly aimed at those Local Authorities that are planning the necessary resources and funding to run a campaign. However, there are many more Authorities that would like to run a campaign but are not able to do at present, with the predominant feature being funding restrictions. For those who said they were not running a campaign were asked if it was something they would like to do but are unable at this time, and a further 47% (58 Local Authorities) said they actually would like to run a campaign.

Collating the responses from the two questions, with nearly 200 responses that's a total of 66% (127 Local Authorities) that are planning or would like to run a plastics recycling communications campaign. If this can be considered a true representative of all UK Local Authorities that's 268 Authorities that are planning or would like to run a plastics recycling communications campaign.

Figure 45 - Local Authorities Planning or Would Like to Plan a Plastics Recycling Communications Campaign



Developing Best Practice

In order to develop the most effective consumer communications and maximise future success sharing best practice and reviewing examples of successful communications campaigns is important research.

A question was asked in the 2014 Survey whether if Local Authorities had run a successful communications campaign (whether it is plastics specific or not) and have seen increased collection volumes as a result, would they be willing to share examples of the guidance used and collection data before and after.

An encouraging 53 Local Authorities said yes to this question, and RECOUP will be following this up to learn why the campaigns were successful, what wasn't successful, and why. These can then be used to guide future Pledge 4 Plastics campaigns and or produced as case studies and included in the Toolkit.

WRAP Support

WRAP have recognised the importance of Pledge 4 Plastics, and have made funds available to Local Authorities for communications delivery. Although the call for expressions of interest has now closed, Local Authorities can find out more about this fund on www.wrap.org.uk/content/expression-interest-increase-recycling-plastics-0.

Future Funding

There are already significant Pledge 4 Plastics campaigns happening in large Local Authority areas which is providing a much needed catalyst for change. With the awareness starting to embed itself in decision makers thinking and the resources in place to run effective campaigns, the sizeable shift needed to meet ongoing targets is starting happen. However, although Pledge 4 Plastics group looks forward with a certain degree of optimism whether the momentum can be built on and translated into ongoing funding that is needed is unclear. The foundations are now in place, however, ongoing funding is central to grasping the opportunity to meet the ongoing demands that are being made of our industry.

Your Support

The campaign needs promoting from as many supporters as possible to make it a real success. The website, and also a communications Toolkit, social media pages and social media plan have been developed to help you and consumers get involved.

If you cannot run a campaign you can still get involved with relatively little time and cost. The different ways you can support the initiative are included in the Toolkit. The web and social media sites are very active after the launch period and this support could be as simple as following us on Twitter, liking the Facebook or including information about the initiative on your web pages, social media or magazines and newsletters.

RECOUP will continue to keep you updated with new Pledge 4 Plastics developments and news.

RECOUP's aim is that the initiative will become an ongoing, effective and recognised campaign that is used by all Local Authorities when engaging with consumers on plastics recycling

EU Legislation & Waste & Recycling Strategies in the UK

Gaining a broad understanding of waste and recycling strategies and targets in both the UK and the wider EU scopes how Local Government plans its strategies and resources both in the short- and long-term.

A detailed review of waste and recycling strategies was included in the 2013 Survey. With new EU legalisation being proposed to be adopted a brief review has been provided to give a snapshot of what the EU proposes for plastics and where the UK nations are with their own waste strategies.

However, these proposals are being reviewed at the time of publishing the Survey (December 2014), and an update will be provided in the 2015 Survey.

European Commission

EU Legislation

EU directives are the principle driver in the development and implementation of policy and targets for the Waste and Resources industry in the UK and shifting to a circular economy across the EU.

The existing EU directive is the Waste Framework Directive, which was last updated 2008. It provided the overarching legislative structure for the management of waste in EU countries, and a key element of this is the 5 steps of the European Waste Hierarchy – prevention, reuse and preparation for reuse, recycle, recovery and disposal.

The current plastics packaging recycling rate for the EU member states is 22.5%, which was considered by many to be too low. However, in July 2014 the European Union adopted the long awaited European Commission Communication "Towards a Circular Economy" and the Waste Targets Review. This reviewed recycling and other waste-related targets in the EU Waste Framework Directive, the Landfill Directive and the Packaging and Packaging Waste Directive and has now certainly created the shift towards better use of resources and the development of circular economies.

This is to be achieved by establishing an EU framework to promote the circular economy, and is focused on:

- Research and innovation
- Design
- Unlocking investment and financing
- Supporting business and consumers
- Modernising waste policy and targets

This should lay the foundations for long term sustainable growth and create a pathway to a successful green economy. This all of course plays a central role in developing plastics recycling, and with plastics being a valuable and circular resource and central part of these aims, and it should lead to a stronger plastic value chain.

This all of course plays a central role in developing plastics recycling, and with the particular focus for the challenging UK plastics packaging recycling targets for 2013-2017, this becomes more relevant for stakeholders in the plastics supply and recycling chain.

EU Legislation & Waste & Recycling Strategies in the UK

The Key Elements

Under the EU Research and Innovation Programme Horizon 2020, the move towards a circular economy will take place with large scale innovation projects targeted at co-operation across the EU.

The aim is for waste legislation to be simplified, and cooperation between the Commission and Member States to be stepped up to ensure better implementation. Minimum operating conditions for extended producer responsibility schemes will also be laid down, and specific approaches will be implemented for specific waste streams, including plastics.

To step up efforts, targets on waste recycling to 2030 are proposed. The main elements of the proposal include:

- Recycling and preparing for re-use of municipal waste increased to 70% by 2030
- Recycling and preparing for re-use of packaging waste increased to 80% by 2030, with material-specific targets that will gradually increase between 2020 and 2030 to reach 90% for paper and cardboard by the end of 2025 **and 60% for plastics**, 80% for wood, 90% of ferrous metal, aluminium and glass by the end of 2030
- Ban on landfilling recyclable waste (including plastics, paper, metals, glass and biodegradable waste) by 2025, and give a mandate to the Commission to consider further phasing out of landfilling of recoverable waste by 2030

These are guided by a target to increase resource productivity by 30% by 2030.

Packaging Waste Regulations and the 2013-2017 UK Packaging Recycling Targets

Sitting alongside these EU waste strategies is the UK's packaging recycling targets for 2013-2017. This is the responsibility of Defra, who implement the *Producer Responsibility Obligations (Packaging Waste) Regulations 2007,* which set targets for the recycling and recovery of packaging waste in the UK.

An interesting question is still how does the approach from the UK nations' devolved waste strategies sit alongside the 2013-2017 packaging targets? With interpretation of the EU strategy being been handed down to the devolved Governments and each nation having its own approach and targets, waste strategy in the UK is confusing to many. Although not immediately clear, an explanation to this could be that targets from the EU directive needs to be met by the UK as a whole, so in effect, if one nation does not perform, the whole of the UK could fail to meet its targets. The packaging targets are designed to "deliver environmental and economic benefits" and ensure the UK meets the EU Directive targets over the next 5 years (Waste Management Plan for England 2013).

There has been no changes in current packaging producer responsibility legislation in the UK despite many calls for this to take place, with particularly strong arguments from plastics reprocessors to incentivise the use of the recycled content in second life applications.

With the new EU targets now announced it is an opportune time for the UK nations to review, even informally, to ensure they are putting their nations in a strong enough positions to meet ongoing targets for the UK to avoid crippling fines and issues with other member states.

Individual UK Nation Waste Strategies

Interpretation of the EU directives has been handed down to the devolved Governments, with the result that waste policy has a different approach and is being developed at different paces in England, Scotland, Wales and Northern Ireland, with each setting its own waste strategy and subsequent targets.

The Waste Directive is implemented in England and Wales through the Waste (England and Wales) Regulations 2011. Scotland and Northern Ireland have a separate approach.

England	Wales	Scotland	Northern Ireland
Waste Management Plan for England (published 2013)	Towards Zero Waste (launched 2010)	Zero Waste Scotland (launched 2010)	Delivering Resource Efficiency (published 2013)

England

A Waste Management Plan for England was published in December 2013 which sets out the current status of the waste generated in England, how those materials are managed and the policies in place to help England move towards "a modern vision to prevent and manage waste, support the growth of the economy and protect the environment".

The plan does not introduce new policies or change how waste is managed, and its aim is to bring current existing waste management information and policies together in one national plan to ensure that a path is set towards a zero waste economy and promoting high quality recycling.

Scotland

Launched in 2010, Scotland has an overarching, long-term plan for resource efficiency and sustainable waste management, *Zero Waste Scotland*, which "promotes the vision of a Scotland where we waste as little as possible" and has mandatory recycling targets.

Wales

As with *Zero Waste Scotland*, launched in 2010 *Toward Zero Waste* is Wales' overarching, long-term plan for resource efficiency and sustainable waste management, which includes mandatory recycling targets.

Northern Ireland

Northern Ireland's most recent waste strategy was found in *Towards Resource Management – The Northern Ireland Waste Management Strategy 2006-2020*. After a consultation in 2013 Northern Ireland published its waste management strategy entitled "Delivering Resource Efficiency", which proposes a change from resource management and landfill diversion to resource efficiency as well as increases in recycling targets and supporting recycling market development.

Acknowledgements & Figure Summary

Acknowledgements

RECOUP would like to thank all the Local Authority recycling scheme managers and their service contractors who took the time to respond to our Survey.

RECOUP would also like to acknowledge the sponsorship from RPC and Indorama Wellman Recycling, which has allowed us to cover the costs of completing this work. This Survey has been supported by the Local Authority Recycling Advisory Committee (LARAC).

Particular thanks go to David Baker from RPC and Dave Thomas from LARAC for their informative and thought provoking articles.

Figure Summary

2014 UK Household Plastics Collection Survey

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