

UK Household Plastic Packaging Collection Survey

2023

RECOUP

Leading a more circular
plastics value chain

UK HOUSEHOLD PLASTIC PACKAGING COLLECTION SURVEY 2023



RECOUP is the UK's leading independent authority and trusted voice on plastics resource efficiency and recycling. As a registered charity, our work is supported by members who share our commitments including a more sustainable use of plastics, increased plastics recycling, improved environmental performance and meeting legislative requirements. We achieve these by leading, advising, challenging, educating and connecting the whole value chain to keep plastics in a circular system that protects the environment, underpinned by evidence and knowledge.

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Foreword

The RECOUP UK Household Plastic Packaging Collection Survey is a specialist, research-based report for stakeholders and decision-makers in the household plastics value chain that provides evidence to support sustainable plastic collection and recycling solutions.

Each year, RECOUP surveys all UK local authorities including borough, district, city and county councils, as well as waste partnerships, through an online questionnaire asking about key areas affecting their recycling collections and operations.

Collation of this information has allowed the 2023 *RECOUP Survey* to provide a comprehensive and transparent review of the collection of household plastics for recycling in the UK, as well as identifying the challenges and opportunities facing local authorities and waste management providers.

Alongside the crucial insights provided by local authorities, the *RECOUP Survey* is supported by the Local Authority Recycling Advisory Committee (LARAC)¹ and the National Association of Waste Disposal Officers (NAWDO)², which is invaluable when collecting data and reporting results.

In 2023, the total number of local authorities across the UK decreased due to the merging of several councils in England, reducing the overall number to **361**³.

Challenges to the Sector

As with previous years, the challenges the waste and recycling sector have to face continue to mount. Whilst the impacts of the COVID-19 pandemic may have largely passed, disruption has continued in respect of challenging plastic markets and high energy costs. In places, this has meant that mechanical plastic recycling facilities have changed the way they operate to ensure that they are sustainable, and in extreme circumstances, some have ceased operating entirely. This is an ongoing challenge for industry, with the low price of virgin plastics often making recycling unviable commercially. Not only does this impact the current systems in place, but it further harms the required investment and growth in the sector.

Policy uncertainty has not helped, with both local authorities and waste management companies seemingly unable to commit to long-term investments, contracts, and changes to target materials without clear guidance from government. They need clarity as to what the next few years will require of them in terms of collections and recycling.



Policy & Legislation

Policy and legislation has remained at the forefront of discussions when it comes to recycling and circularity for plastic waste in the UK and abroad.

In 2023, policies under discussion remained largely the same as 2022, with the only concrete development being the introduction of *Single-Use Plastic (SUP) Restrictions and Bans* in England⁴ and Wales⁵ in October 2023, with Scotland having introduced a ban in 2022⁶.

The draft *Producer Responsibility Obligations (Packaging and Packaging Waste) Regulations 2024*⁷, or *Extended Producer Responsibility (EPR)*⁸, was released for consultation in the summer, as was a consultation around *Chemical recycling and the adoption of a mass balance approach*⁹ in respect of HMRC's *UK Plastic Packaging Tax*¹⁰, which also saw an increase to **£210.82 per tonne** in April 2023.

The planned introduction of a *Deposit Return Scheme (DRS)* in Scotland¹¹ was cancelled due to issues relating to the *Internal Markets Act (IMA)*¹² and the planned inclusion of glass containers being inconsistent with the rest of the UK¹³. DRS is now due to be introduced across all four UK nations "no earlier" than October 2025, though questions remain around the inclusion of glass, with both Welsh and Scottish Governments seemingly keen for it to be included.

The consultation response to *Consistency in Household and Business Recycling in England*¹⁴ was finally released after a two-year wait. The policy was rebranded as *Simpler Recycling*¹⁵ and will see all local authorities in England collecting a set list of materials for kerbside recycling, as well as separate food waste collections, from 2026.

Plastics and the Media

The goodwill and engagement of the general public on environmental matters has been a constant amongst all the uncertainty. It could even be perceived that discussions have broadened to include environmental issues relating to material substitutions and their impacts, not least in respect to paper straws and cups.

Equally, however, stories negatively portraying plastic waste, particularly concerning material being found dumped abroad and microplastics being released in recycling processes, have no doubt hurt public confidence in the sector.

This year's *RECOUP Survey* will explore this in greater detail, as well as the impacts and changes to the quantity of plastic packaging Placed on the Market (POM) and collected for recycling.

Thank you for your continued support!

With the continued importance and focus on addressing the challenges of plastic waste, the Survey responses from local authorities and waste management providers each year are increasingly valuable.

RECOUP would like to thank all the local authority waste management and recycling scheme staff members and their service contractors who took the time to respond to this year's Survey. The continued support from across the plastics supply chain helps to make the research that forms the core data both comprehensive and worthwhile.

The response rate this year was the highest to date with over **77%** of UK local authorities taking the time to provide information.

Data and views in this report will feed directly into waste management and resource strategy development. This includes consultations, advisory groups, and discussions. It will also help to highlight opportunities and challenges to the wider industry, decision-makers, and the media on a global level.

The *RECOUP UK Household Plastic Packaging Collection Survey* is also supported by the Local Authority Recycling Advisory Committee (LARAC)¹ and the National Association of Waste Disposal Officers (NAWDO)².



You can also follow us on the following social media channels.



To find out more about RECOUP membership, visit the RECOUP website at www.recoup.org.

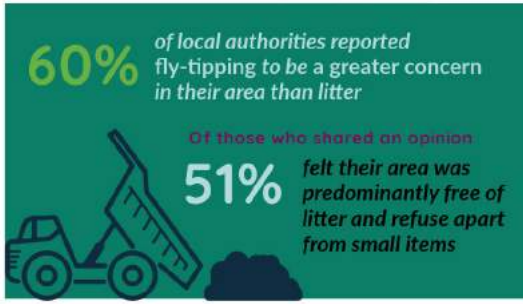
@RECOUP_UK on X (formerly Twitter) and LinkedIn. For those working with companies and organisations to increase plastics recycling, covering policy & infrastructure, packaging design & recyclability, and sustainability & circularity.

@Pledge2Recycle on Facebook, X (formerly Twitter), LinkedIn, and Instagram. For community & education; cutting the confusion around plastic recycling; and work with schools, clubs and community groups to answer plastic recycling questions. You can also visit the *Pledge2Recycle Plastics* website at www.pledge2recycle.co.uk.

Thank you to all of the following waste management companies, local authorities and waste partnerships for their continued support of RECOUP through membership.



Data Summary





Report Summary

UK Household Plastics Collection Data

- As of April 2023 there were **361** UK local authorities, all of which provide a kerbside recycling collection service for household plastics.
- **578,000 tonnes** of household plastic packaging was collected for recycling in 2022.
- The overall collection rate of all consumer plastic packaging in 2022 was **42%**.
- The collection rate for all rigid plastic packaging (bottles, and pots, tubs and trays (PTT)) in 2022 was around **53%**.
- This averages **21 kg** of plastics packaging collected per household per year, out of a total **50 kg** per household consumed.
- **797,000 tonnes** of household plastic packaging was not collected for recycling and went to landfill or for energy recovery.

Plastic Packaging Placed on the Market Figures

- For 2022, consumer plastic packaging Placed on the Market (POM) data was revised to account for the various impacts on the packaging and consumer sector. This accounts for reductions in waste arising figures and consumer spending and demand as a result of the cost of living crisis.
- It is estimated that, in 2022, **1,375,000 tonnes** of household plastic packaging was POM in the UK, a decrease of around **5%** compared to 2021.
- Of this, **605,000 tonnes** were plastic bottles, **440,000 tonnes** were plastic PTT and other rigid plastics, and **330,000 tonnes** were plastic films and flexibles.
- **1,154,000 tonnes** of plastic packaging was declared as recycled from all sectors in 2022. This is a recycling rate of **52%**.

Plastic Bottles

- In April 2023, **100%** of UK local authorities offered kerbside recycling collection for plastic bottles.
- **384,000 tonnes** of plastic bottles were collected for recycling in 2022.
- In 2022, the overall collection rate for all household plastic bottles was **63%**.
- **66%** of household plastic packaging collected at kerbside for recycling was plastic bottles.
- This breaks down as **14 kg** of plastic bottles collected per household out of **22 kg** consumed.
- The collection rate for drinks bottles is **78%** for natural HDPE drinks bottles and **76%** for PET drinks bottles.
- For non-drinks bottles, the collection rate is **45%**.
- Over **13 billion** plastic bottles are used each year in the UK. That's more than **36 million** plastic bottles per day, **1.3** bottles per household.
- Almost **8.5 billion** plastic bottles were collected for recycling in 2022. That's over **23 million** bottles every day.

- **4.8 billion** household plastic bottles were not collected for recycling from UK households in 2022. That's more than **13 million** plastic bottles every day.
- The average UK household uses over **480** plastic bottles a year and recycles **300** of them.
- **425 tonnes** of plastic bottles were collected for recycling in 1994. Since then, almost **120 billion** plastic bottles, **5.5 million tonnes** of plastic, have been collected for recycling.

Plastic Pots, Tub and Trays (PTT)

- In April 2023, **319 (88%)** local authorities offered kerbside recycling collection for plastic PTT.
- In 2022, there was a **39%** collection rate for plastic PTT.
- **29%** of plastic packaging collected was plastic PTT.
- **170,000 tonnes** of plastic PTT was collected for recycling in 2022.
- This breaks down as almost **6 kg** of plastic PTT collected per household per year, out of a total of just under **16 kg** per household POM.
- Around **10,000 tonnes** of plastic PTT was collected in 2007. This is now almost **200,000 tonnes** annually. Since 2007, a total of **2 million tonnes** has been collected for recycling.

Plastic Films and Flexible Packaging

- In April 2023, **44 (12%)** local authorities offered kerbside recycling collection for plastic films and flexibles.
- This was the **6th** consecutive year of decline of local authorities offering a kerbside recycling collection for plastic films and flexibles.
- **24,000 tonnes** of plastic film was collected for recycling in 2022.
- In 2022, there was a **7%** collection rate for plastic films and flexibles.
- **4%** of plastic packaging collected at kerbside was plastic films and flexibles.
- This breaks down as **1 kg** of plastic films and flexibles collected per household, out of over **12 kg** consumed.
- **84%** of the 44 local authorities who collect plastic films and flexibles accept more than one type.



Collection Methods

- **71%** of local authorities collect recyclables on a **fortnightly** basis, **19%** weekly, **10%** 3-or-4 weekly, and the remaining **1%** more than once per week.
- **75%** of local authorities use **wheelie bins** to collect plastics for recycling at kerbside, with **blue** being the most common bin colour. Other kerbside collection methods include bags or sacks (**15%**) and boxes (**10%**).
- **43%** of local authorities collect recyclable materials in **co-mingled** streams, whilst the other **57%** use some form of **source-separated** collection (e.g. separate glass or paper).
- Provision is in place in some local authorities for the collection of other plastic formats, including plant pots, dark and/or coloured plastics, polystyrene and waste electronics.
- **11%** of local authorities communicate that they collect plastic plant pots at the kerbside for recycling.
- It is estimated that around **120,000 tonnes** of plastic (both packaging and non-packaging) is collected at the **1,025** Household Waste Recycling Centres (HWRCs) in the UK, but is not currently recycled.

Actual Recycling Rates

- Collection data does not reflect actual recycled material quantities with yield losses meaning Material Recovery Facility (MRF) input quantities are between **15 to 50%** higher than the reprocessing output quantities.
- Local authorities reported material reject rates of up to **37%**, with an average of just under **14%**.

Treatment of Residual Waste

- Residual waste treatment continues to be a key subject in recovering post-consumer plastic packaging, finding new sources of material to capture for recycling, and reducing spending on gate fee costs for energy recovery and landfill.
- The treatment processes reported for general waste were **82%** to energy recovery and **16%** to landfill.
- **34%** of local authorities reported that they actively investigate or recover recyclables from their residual waste stream.

Waste Crime: Litter and Fly-tipping

- **60%** of local authorities reported **fly-tipping** to be a greater problem in their area than litter.
- **51%** of local authorities who shared an opinion felt that their area was 'predominantly free of litter and refuse apart from small items'.
- **30%** of local authorities reported an **increase in litter and/or fly-tipping** in 2022.
- **96%** of local authorities are undertaking **litter-picking** activities, **65%** **enforcing litter penalties**, and **46%** **conducting communication and education campaigns**.
- **39%** of local authorities said the area that causes them the most concern with regards to litter is **highways and public roads**, **25%** stated **retail and commercial areas of town centres**, and **21%** **residential areas**. **5%** each said **industrial and rural areas**, whilst **4%** felt it was **rivers and riverbanks**.

Export of Plastic Packaging for Recycling

- **Turkey** remained the main destination for UK exports of plastic packaging from all sectors in 2022.
- In 2022, material going to non-OECD countries increased to **16%** of all exported plastic packaging.
- **54% (619,000 tonnes)** of the UK plastic packaging declared as recycled was done so in the UK, with **46% (535,000 tonnes)** exported. This is a slight shift of less than **1%** towards domestic recycling instead of export compared to 2021.
- Initial data for 2023 suggests that the proportion of material exported for recycling has increased.
- It remains a challenge to audit material market flows with continued examples of UK waste being found abroad.
- Precise information and transparency about end destinations of exported materials should be high on the agenda for the UK, as well as moving away from the reliance on export.

Recycled Plastic Markets

- In 2022, Packaging Recovery Note (PRN) prices averaged around **£228 per tonne** and ranged from **£60 to £420 per tonne**.
- These extremes highlight the complex and potentially volatile nature of markets and how any reform to the packaging producer responsibility system needs to control and stabilise any future version of PRNs.
- In 2022, **£490 million** was generated from PRNs and Packaging Export Recovery Notes (PERN), **£280 million** of this from plastics.
- There was significant disruption to the plastics recycling industry in 2022, and into 2023. This was due to high operating costs and low demand and value of recycled material, particularly in context of cheap virgin plastic availability.

Communications

- In the last three years, local authorities reported that they communicated **reducing contamination (62%)** to residents, the **'Reduce, Reuse, Recycle'** message (**57%**), the **reduction of fly-tipping (26%)**, the **reduction of litter (24%)**, and **clarifying target and non-target materials (24%)**.
- **57%** of local authorities reported they undertake **ongoing communication campaigns** to residents around waste and recycling, with a further **23%** operating a campaign **in the last 12 months**.
- **35%** of local authorities ask residents to keep **lids on** plastic bottles when disposing of them, whilst **14%** ask residents to **remove lids**. The remaining do not specify a preference.
- **74%** of local authorities ask their residents to **empty, rinse or wash** plastic packaging before disposal.
- **49%** of local authorities ask residents to **flatten and squash** bottles before disposal.
- **8%** of local authorities used **polymer codes** to communicate to residents what plastics can and cannot be collected for recycling at kerbside.

Pledge2Recycle Plastics

- Managed by RECOUP, *Pledge2Recycle Plastics* is a national initiative reducing confusion around plastic recycling.
- Its mission is to promote consistency, remove confusion and increase plastics collected for recycling through education, communication and consistent messages, with the vision that all recyclable plastics are collected for recycling.
- *Pledge2Recycle Plastics* provides and supports communications on household plastic recycling by:
 - 1) Agreeing a common language for plastics recycling to reduce consumer confusion around plastic recycling.
 - 2) Developing resources to support plastics recycling education for organisations, communities and schools.
 - 3) Educating all ages on plastic recycling through supporting schools, events, local authorities, communities and RECOUP members to educate about plastics recycling.
- If you are planning a plastics communication campaign or would like to find out more, please contact the team at: www.pledge2recycle.co.uk.

UK Policy & Legislation

- The policy and regulation of the UK's waste and recycling, particularly around plastic packaging, continued to develop in 2023 ahead of major changes in the coming years.
- **83%** of local authority respondents said they were **supportive or strongly supportive** of the introduction of *Extended Producer Responsibility* (EPR). The remaining authorities said that they were neutral.
- **39%** of local authority respondents said they were **supportive or strongly supportive** of the introduction of *Deposit Return Schemes* (DRS). **19%** said they were **against or strongly against**.
- **78%** of local authority respondents said they were **supportive or strongly supportive** of the introduction of *Consistency in Household and Business Recycling in England*. **4%** said that they were **against or strongly against**, and the remaining said that they were neutral.
- **85%** of local authority respondents said they were **supportive or strongly supportive** of *Single-Use Plastic* (SUP) legislation. The remaining authorities said that they were neutral.
- **51%** of local authority respondents said they were **supportive or strongly supportive** of a *ban on exports to non-OECD countries*. **4%** said they were **against or strongly against**.
- HMRC's *UK Plastic Packaging Tax*, which was implemented in April 2022, increased to **£210.82 per tonne** on packaging that is predominantly plastic, from April 2023.
- In summer 2023, HMRC consulted on *Chemical Recycling and the Adoption of the Mass Balance Approach* in respect of the *Plastic Packaging Tax*.
- Reform of the UK Packaging Producer Responsibility System, otherwise known as *Extended Producer Responsibility*, continues to develop with the draft regulations having been shared for consultation.
- EPR will fund the full net cost of managing the collection, transport, sorting, reprocessing and disposal of used packaging.

- EPR will be introduced gradually over the next few years, with reporting requirements having been introduced in early 2023. The first payments to local authorities will begin in October 2026, based on 2025 data. Cut down modulated fees will be used until Q1 2027, and in October 2027 full payments will be based on the final recyclability assessment methodology (RAM).
- In October 2023, responses to the *Consistency in Household and Business Recycling in England* consultation were shared by DEFRA. This policy has now been replaced with *Simpler Recycling* and aims to ensure a consistent set of materials are collected for recycling at kerbside across England, including plastic films and flexibles and food waste, as well as the frequency of which they are collected.
- By 31 March 2025, non-household municipal premises (such as hospitals, schools, and businesses), except micro-firms, will be required to collect all recyclable waste streams, excluding garden waste and plastic film.
- By 31 March 2026, local authorities will be required to collect all recyclable waste streams, excluding plastic film, from all households in England, including a weekly food collection for every household, unless transitional arrangements are agreed.
- By 31 March 2027, micro-firms (businesses with fewer than 10 full-time equivalent (FTE) employees) will be required to collect all recyclable waste streams, excluding garden waste. Plastic film collections from all properties will also begin.
- The Welsh Government is due to introduce the *Separate collection of waste materials for recycling for businesses in 2024*. This will set out a consistent set of materials that all businesses in Wales will need to collect.
- The DRS due to be introduced in Scotland in 2023 experienced further delays due to issues with the *Internal Markets Act* (IMA) and the inclusion of glass in the scheme. This, along with the rest of the UK, is now due to be introduced from **October 2025** "at the earliest".
- Wales and Scotland are due to include glass containers in their DRS, whilst England and Northern Ireland are not.
- *Single-Use Plastic* bans have been introduced in England and Wales (from October 2023), and Scotland (from August 2022), restricting the distribution and sale of several single-use plastic items. Wales is due to begin a second phase of its ban in 2026.
- In April 2023, the *Landfill Tax* increased for the whole of the UK to **£102.10 per tonne**.

International Policy & Legislation

- As of late 2023, the *Plastic Packaging Waste Regulations* (PPWR) are being discussed by the European Commission with a view to them being introduced for Member States.
- This will include targets set for recycling rates, re-use rates, recycled content in packaging, and other areas such as the introduction of DRS and other schemes.
- The Republic of Ireland (ROI) is due to introduce a DRS from February 2024, with modulated fees on PET and aluminium drinks containers.



RECOUP – Opinion

This report has always been about the plastic collected for recycling, alongside the opportunities and barriers surrounding this. However, increasingly, are recycling end markets the prickly thorn no one wants to touch?

Let's start with the positives. Looking to the future, there is finally some reassurance about what materials should be collected through Department for Environment, Food & Rural Affairs's (DEFRA) *Simpler Recycling*¹⁵ initiative.

*Simpler Recycling*¹⁵ says local authorities in England will be required to collect a core set of packaging for recycling from households by 31 March 2026 (for businesses this is by 31 March 2025). Looking at plastic specifically, this includes plastic bottles, pots, tubs, trays, tubes and cartons.

Really importantly, this list also includes plastic film and flexibles to be introduced by 31 March 2027, a year later than the other plastic materials in order to align with the proposed date through *Extended Producer Responsibility (EPR)*⁸. This will help to create the investable conditions needed to underpin a recycling supply chain for this plastic format. Albeit, with just **12%** of councils in England collecting plastic films at kerbside, a massive transition is needed, and informed decisions are necessary to truly make this simpler for the consumer and the plastic recycling sector alike.

Of course, Scotland, Wales and Northern Ireland will continue to develop their own plans, which RECOUP will follow with interest.

Struggling Recycling Markets

This is of course focused on the material collected for recycling, but we need to look at the recycling end markets – the processes that create new raw materials – to assess how the whole recycling system can work effectively.

As part of the *Flexible Plastic Fund FlexCollect*²⁰ project I've been working on the recycling end market activities and seen first-hand how transformation in this space is equal, or potentially even more fundamental, than what and how we collect the materials.

Over the past year there has been a significant shift in the recycling markets. Driven by lower oil prices (to produce virgin plastic), cheap imports of plastic packaging (the UK imports around half the plastic packaging it uses) and to avoid paying a premium for recycled content, there has been less demand for recycled material.

Yes, more material will be collected, but to deliver a circular and environmentally sound outcome, how can the whole recycling system work effectively if it has nowhere to go?

Potential Solutions

A commercially viable and financially supported structure is needed to ensure as much of the collected material as possible is recycled.

One system that could be more effective is the Packaging Recovery Note (PRN). This has been in place since 1997 to act as a commercial pull mechanism to recycle the collected material. In the new EPR scheme, it is the PRN system which is intended to provide financial support to the reprocessors and exporters, with the presumed ambition to recycle as much of the material as possible in the UK.

How does the PRN system work? Packaging producers are obligated to buy evidence from reprocessors or exporters for every tonne of material recycled through the purchase of PRNs. Under the new EPR system, this is the only intended financial support mechanism for recyclers.

However, it is a market-based system, and prices go up and down depending on the availability of PRNs, which can create an excessively volatile commercial environment. These price changes make it challenging to produce a business plan anywhere along the packaging producer to recycling supply chain and also put financial investment where it's needed most.

The revenue from PRNs for plastic packaging in 2022 was **£228 million**, with the spend split across the following six areas: infrastructure and capacity; funding collection; reduction in price and developing new markets; costs of complying with the regulations; retained for future investment; and developing communication strategies. Overall, would it not be a more effective mechanism if the PRN price was stable, or within a range, and was targeted on the plastic packaging formats where investment was needed the most?



UK Recycling – Stronger Support?

Picking up on the point about recycling in the UK, export markets have played a central role in the development of UK plastic packaging recycling for many years, with **over 60%** of our plastic packaging being exported for recycling until recently. Although more material has been recycled in the UK than overseas in 2021 and 2022, the incentive to keep material in the UK needs to be far stronger.

Although there has also been a tightening of controls on exporting materials, there is still an incentive to export through the Packaging Export Recovery Note (PERN), which means UK reprocessors are competing for, and potentially paying more for, material that is exported. If the UK wants to increase value in its recycling system and create strong environmentally sound outcomes, isn't incentivising material to be recycled in the UK the more effective approach?

There are promising developments for new recycling facilities in the UK. ReNew ELP is the first commercial scale chemical recycling facility, and there are new mechanical recycling facilities and expansions taking place. Indeed, depending on the outcome of HMRC's recent consultation on the use of material allocation methods for chemical recycling (essentially making recycled content from chemical recycled processes viable), bigger and more varied recycling infrastructure will develop.



However, all this promise is played off against a backdrop of reduced demand and prices for recycled plastic. If it is looked at objectively, Simpler Recycling should be a catalyst for positive change, but the whole recycling system needs to work effectively. Are recycling end markets the prickly thorn no one wants to touch? Maybe I wouldn't go that far, but policy to support the recycling end markets needs to evolve and be designed intelligently to maximise the huge potential.

Steve Morgan
Head of Policy & Infrastructure, RECOUP





RECOUP – Our Role

RECOUP is a charity and leading authority built on a network of members that provides expertise and guidance across the plastics recycling value chain committed to securing circular solutions for plastic resources.

RECOUP is the UK’s leading independent authority and trusted voice on plastics resource efficiency and recycling. As a registered charity, our work is supported by a network of over 170 members who share our commitments.

Members of RECOUP include retailers, brands, packaging producers, waste management companies, and local authorities, among other organisations. RECOUP receives no government funding, is independent, and aims to achieve the best environmental outcomes in respect to plastics and packaging.

RECOUP is the only truly independent organisation representing the whole plastics value chain and wider stakeholders, and its board of trustees meet regularly to contribute to the development of RECOUP’s strategy and direction. Trustees are nominated and elected by RECOUP members, and each provide specific expertise in plastic resource management and recycling, including finance and legal issues. RECOUP therefore serves the shared interests of the plastics resource and recycling value chain and offers the best value for its members.

Through the work of RECOUP, its members, the board, and communication channels, it can influence policy, strategic development, and change. RECOUP would like to acknowledge the support from all of its valued members which has allowed the completion of this year’s *UK Household Plastic Packaging Collection Survey*.

Our Commitments

 More sustainable use of plastics	 Meeting legislative requirements
Increased plastics recycling 	Improved environmental performance 



RECOUP

RECOUP Plastics Resources & Recycling Conference 2024

Thursday 26th September 2024





Methodology & Reporting

Each year, RECOUP's UK Household Plastic Packaging Collection Survey analyses data collected from all UK local authorities, county councils and waste partnerships. This helps to understand the quantities, challenges and opportunities that are associated with household plastic recycling, as well as to compare and identify trends year-on-year.

To best understand the landscape for household plastics recycling, several different figures and sources are required. This includes how much plastic packaging is placed on the UK market each year, where it is used, how much is collected, and associated values and other incentivising factors for the collection of these materials.

As well as this, RECOUP has also received confidential data from its waste management company members, helping to estimate the composition of collected plastic to provide the best possible and most realistic representation of the data.

The Survey

In May 2023, RECOUP shared a questionnaire with all **361** UK local authorities³, as well as county councils and waste partnerships. These questions covered topics around the amounts of plastics collected at kerbside, how this is broken down by format, the destination of this material, as well as challenges, opportunities, and opinions of upcoming policy changes, and how these are likely to affect local authorities. The response rate for collection authorities responding to the 2023 RECOUP Survey was the highest to date at **77%**.

Service Provision

A local authority's service provision is defined by whether they communicate to their residents that a certain plastic format or product is accepted for collection at kerbside. Some plastic formats and products can be accepted by the waste management provider's sorting facility but are not communicated as target items. This may be due to several reasons, be it contractual, logistical or economical. In these instances, the local authority is categorised as not providing a collection scheme as its collection is not communicated to residents.

Research is undertaken to understand the messaging from local authorities to their households, including what items can be recycled, and what individuals should do with the packaging before disposal (replace or remove bottle lids, wash or rinse trays, etc.).

As well as identifying the provision for the three primary categories of household plastic packaging (plastic bottles, plastic pots, tubs and trays (PTT), and plastic films and flexibles), additional research has been undertaken to understand the collections of items such as plant pots, medical blister packs, coat hangers, and polystyrene.

There are cases where messages can be conflicting due to inconsistency in the language used to describe the same plastic

items and formats. For example, a local authority may report collecting one type of 'film', but not another (e.g. carrier bags but not cling film). In these cases, further research is carried out to clarify the results.

Plastic Packaging Placed on the Market (POM)

The quantity of plastic packaging that is POM is important for measuring the UK's collection rates. RECOUP has always used the most robust data available which has been Valpak's *PlasticFlow 2025*¹⁶ and the subsequent *COVID-19 Impact*¹⁷ reports in recent years. For the 2023 Survey, the POM figures have been amended to account for the widespread drop in packaging used and waste arising. This is largely as a result of various global impacts over the last couple of years, including the widespread cost-of-living crisis which impacted both operations and consumer habits.

The Survey estimates **1,375,000 tonnes** of plastic packaging was POM in the UK in 2022, a drop of around **5%** compared to the previous year. These figures are due to be refined over the next 12 months to get a clearer understanding and breakdown of the plastic packaging on the UK market.



Variables and other considerations

Although a high proportion of the data and analysis in the *Survey* is based on actual responses from local authorities, analysing and measuring performance indicators is not a straightforward process. There are a well-established number of performance indicators provided for plastic collections, but there are many factors that can influence a scheme's collection performance, operational efficiency and cost. These include the type and quantity of other material collected, the type of location it is collected from (urban or rural), housing types, socio-demographics, and how the scheme is communicated to residents. All data is analysed thoroughly, and data considered to be incorrectly reported is omitted or re-estimated using appropriate available data and averages.

Estimating the composition of household plastics collected at kerbside is challenging due to the inconsistencies in both the collection and reporting of data by local authorities. This may be due to reasons such as differences between reporting times, contractual arrangements, and the co-mingling or source-separation of different materials. There is often variation in how data is presented by local authorities, such as whether it is as one overall Dry Mixed Recycling (DMR) figure, plastics only, or by individual format. Due to these variables, collection quantities cannot be calculated by adding up all of the provided collection data sequentially. Accurate and audited estimated collection data is reliant on the processes in place, and these vary by local authority.

In instances where there is no, or only partial collection data reported, the dataset is completed based on the service provision, and then by applying collection quantities based on those services. This is completed by either using previous *Survey* responses with adjustments based on overall received data, or average performance data using the number of households against the average that can be expected to be collected for these households (kg per household, per year). These household figures are taken from the *2021 Census*¹⁸ from the Office of National Statistics (ONS).

Mixed Plastics

As local authorities often record and report their data differently to one another, plastic packaging can often be reported as 'mixed plastics', and clarification is often needed on the different interpretations and composition of this fraction. Compositions can vary considerably between local authorities depending on the target outputs and the efficiency of the Material Recovery Facility (MRF). Some facilities only segregate some plastic bottles, like clear PET and natural HDPE bottles, and leave others in with the plastic PTT or 'mixed plastics' fraction. These then go for further sorting or export. Other facilities may leave all plastic packaging together to try to ensure a positive value for all outputs. It should be noted that where there are large quantities of material to process, or at the faster sorting facilities, more bottles can end up in a PTT or 'mixed plastic' fraction.

- **Dry Mixed Recycling (DMR)**

Plastic packaging quantities are increasingly being reported as part of co-mingled totals for all DMR. Therefore, plastic packaging quantities are calculated by using percentage averages dependent on the variety of plastic formats collected in that individual scheme.

- **Plastic Packaging Only**

Plastic packaging only quantities can be reported by local authorities operating source-separated collection schemes. A percentage is also sometimes estimated based on compositional analysis by the local authority or waste management provider, or through a specific percentage composition recommended to be used by WasteDataFlow (WDF)¹⁹. It is often not possible for local authorities to provide plastic collection quantities broken down by format.

- **Multiple Collection Schemes**

Local authorities can report collection quantities from all services they provide, including kerbside collections and bring schemes, recycling 'On-the-Go' (OtG) schemes and Household Waste Recycling Centres (HWRC). In some cases, data and responsibility for these is held at a county, rather than a district council level. Many of these schemes' bins are serviced as part of the kerbside collection route, and this is accounted for when calculating collection quantities.

- **Plastic Films and Flexibles**

Whilst local authorities are often unable to provide granular data down to the levels of plastic film and flexibles within mixed waste streams, assumptions can be made based on the provision that is in place. For example, the quantities of plastic films and flexibles collected in an authority that does not target them will be low, but they are still likely to receive a fraction in combination with other packaging (e.g. film lids on PTT, collection bags, etc.), or through citizens incorrectly disposing of these items as recycling. This has been considered in data estimations within the *Survey*.



Whilst *Simpler Recycling*¹⁶ will ensure the consistent collection of this material for recycling in England, the challenges to local authorities and waste management companies must still be addressed. These include the need for clear and concise guidance to householders. Communication with residents must ensure that correct types of plastic packaging are disposed of and that it is presented correctly and free from contamination. There are also practical barriers preventing plastic films and flexibles from being compatible with many existing UK collection and sorting systems, including the risk of it contaminating established material streams (including plastic bottles and paper lines), and the potential to clog sorting equipment. Availability of economically viable and sustainable end markets for the material is also a challenge. Currently, most collected household plastic film is baled and exported for reprocessing or used as feedstock in Energy from Waste (EfW) facilities.

- **Non-Packaging Plastics**

Non-packaging plastics often include rigid plastic items such as children's toys and can include small Waste Electrical and Electronic Equipment (WEEE). These items are most commonly targeted at Household Waste Recycling Centres (HWRC), though around **25%** of local authorities provide separate kerbside collections for one or more of these items.

Other non-packaging plastics collected at kerbside include plastic plant pots (or flowerpots) which are collected by **11%** of local authorities, coffee capsules which are collected by **3%**, coat hangers and medical blister packs which are each collected by **2%**, and polystyrene which is collected by **1%**.

Plant pots are mainly manufactured from PP, and if this fits in with the feedstock requirements of the MRF and reprocessor, they can be added to existing PTT collections. However, contamination through residual soil, garden waste, and other unwanted garden products such as seed trays and ceramic pots being wrongly included in the recycling stream can present challenges.

Considerations

Collection provision across the UK varies from one area to another, even between authorities within the same county boundaries. This can be for several reasons, including differing population densities, socio-demographic factors, infrastructure, and legislative requirements. Whilst consistency is often cited as a challenge for achieving a positive recycling rate for the UK, this is further complicated across the different devolved nations.

Using figures relating to the number of households in England and Wales, the Office for National Statistics (ONS) and the *2021 Census*¹⁸ has increased its estimate for the UK's total household number to just over **28 million**. However, the exact number of households that receive a service in a specific region can vary. Whilst a local authority may promote a collection service in a certain area, it does not necessarily mean that all households in that area receive the service.

This is especially true of areas with high-density housing (flats and apartments), and rural or inaccessible locations. Trials of schemes, including authorities conducting the FlexCollect²⁰ trials, also create variations in provision.

Other Plastic Collection Services

Other plastic collection services provided by local authorities focus on 'Away from Home' collections. These can be used effectively at specific sites where dedicated trips are made to take waste and recycling, or at convenient points or areas of high footfall when citizens are out and about. These include:

- Bring and Front-of-Store Schemes²¹
- Deposit Return Schemes (DRS)
- Household Waste Recycling Centres (HWRCs)
- On-the-Go (OtG) Recycling Bins

Bring and Front-of-Store (FoS) Schemes

Due to the almost complete coverage of kerbside recycling collections in the UK, the popularity of traditional bring schemes has stagnated over time, with a gradual decline in use. However, the UK has seen an increase in collections of some types of material not currently collected for recycling at kerbside on a wide scale, such as plastic films and flexibles.

Bring schemes include traditional bring-back style facilities such as bottle banks and other receptacles in public places, as well as retailer FoS collections for consumer's plastic films and flexibles. FoS collections have been introduced across the UK by major retailers as a way of capturing post-consumer plastics films, flexibles and sometimes other 'hard to recycle' packaging, in the absence of a kerbside recycling collection scheme. Whilst these have helped to increase the capture rate for plastic films and flexible packaging, challenges remain with respect to further infrastructure to reprocess this material, its value, and available end markets.

Deposit Return Schemes (DRS)

There continues to be strong momentum for DRS to be used across the UK to collect a variety of drinks containers, most commonly PET bottles and aluminium cans. Trials of Reverse Vending Machines (RVMs) have, and continue to, take place, with some retailers using them in their stores.

Policy is to be put in place that will introduce DRS across the UK. However, 2023 saw significant discussions around the Scottish system¹¹ which was due to be introduced in August 2023. The scheme had planned to include glass containers as part of its system but concerns raised by the UK Government in relation to the *Internal Markets Act (IMA)*¹² and its inconsistency with the rest of the UK scheme meant that it was ultimately delayed until October 2025, the same date as the rest of the UK¹³, "at the earliest". Discussions are still taking place around the inclusion of glass containers as part of the Welsh scheme. Separately, the Republic of Ireland (ROI) is introducing a scheme²² in early 2024 that will charge a variable fee depending on the size of the PET or aluminium container.



Plastics Collection Services

Collection of items disposed of by the public is the first step to guarantee materials can start their recycling journey. Ensuring the success of this stage of the process enables material to be captured within circular economy models. The RECOUP Survey provides a comprehensive review of local authority service provisions to collect household plastics from citizens.

All **361** local authorities in the UK currently provide at least two types of kerbside waste collection as required by the *Household Waste Recycling Act 2003*²³. This established setup means that year-on-year changes to service provision are limited. However, the introduction of legislation will change this in the coming years.

Examples of legislative reforms include *Deposit Return Schemes (DRS)*^{11 13} due to be introduced across the UK from October 2025, these are likely to remove large amounts of valuable PET drinks containers from kerbside recycling streams. Also, *Extended Producer Responsibility (EPR)*⁸, which will reform how local authorities are funded with regards to waste management, collection, and communications to residents. Perhaps the most impactful to service provision itself will be *Simpler Recycling*¹⁵ which will begin to ensure a consistent set of materials are collected for recycling by all local authorities in England, phased in from 2025.

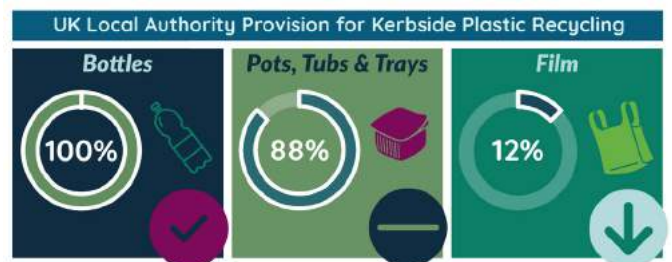
As well as England's *Simpler Recycling*¹⁵ legislation, the devolved administrations each have their own guidance concerning kerbside recycling schemes. The Scottish Government and the Convention of Scottish Local Authorities²⁴ (CoSLA) have a *Household Recycling Charter*²⁵, the Welsh Government has its *Collections Blueprint*²⁶, and the Department for Agriculture, Environment and Rural Affairs (DAERA) has its *Waste Management Plan*²⁷ for Northern Ireland.

As of April 2023, there were **361** local authorities in the UK:



The total number of local authorities has reduced in recent years due to a trend of local authorities merging in England³. This has been done as part of cost-saving measures and the streamlining of services.

In the UK, the majority of plastic packaging collected for recycling is from kerbside collections. The breakdown of these resources, by plastic format, currently shows the following provisions for collections across the UK:



• Plastic Bottles

All **361** UK local authorities collect plastic bottles as part of their kerbside recycling service, and have done since 2019.

• Plastic Pots, Tubs & Trays (PTT)

88% of UK local authorities accept PTT as part of their kerbside collection schemes. This is the same as the 2022 *RECOUP Survey*²⁸. Whilst this has shown considerable growth in provision over the last decade, growth has slowed in recent years and end markets remain a challenge with the material often seen as low quality and value.

• Plastic Films and Flexibles

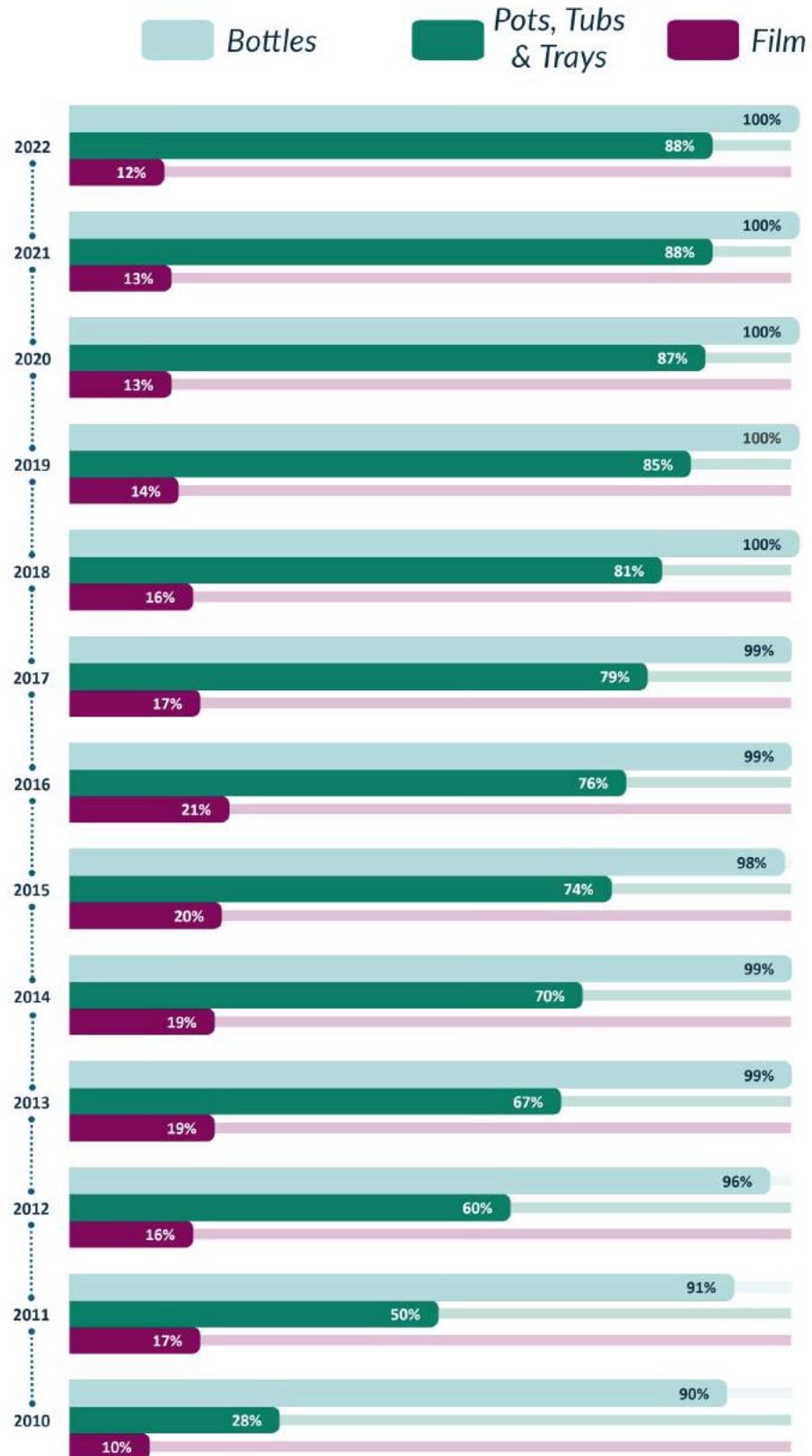
The number of local authorities collecting plastic films and flexibles as part of their kerbside collection service has declined for the 5th consecutive year. The kerbside provision for plastic films and flexibles is now **12%**.

RECOUP has found that local authority communications and collections relating to plastic films and flexibles are inconsistent. Plastic film has a broad range of applications, including single-use carrier bags, bread and cereal bags, cling film, bubble wrap and shrink wrap. Of the local authorities collecting film, **16%** state that they accept carrier bags only. The remaining authorities collect more than one type of film. However, in many cases, there are still film types they will not accept, with multiple local authorities stating that they do not collect bubble wrap or cling film.

Despite the ongoing reduction in local authorities collecting plastic films and flexibles as a recyclable material, *Simpler Recycling*¹⁵ legislation will see them become mandatory for local authorities to collect for recycling from 2027. As such, quantities of these materials collected will grow considerably. This does not guarantee that the collected material will achieve circularity, and work continues to take place to understand available end markets for this low value, and often highly contaminated, material.

Service Provision History

History of Local Authority service provision for kerbside recycling of plastics



As well as traditional RVM-led DRS, a Digital Deposit Return Scheme (DDRS) is being explored as a way of utilising existing collection infrastructure. DDRS would allow citizens to dispose of their beverage containers in their kerbside recycling bins as they do at present, but claim back the value of the deposit by verifying its disposal at home using innovative technological solutions. Research and trials of this continue to take place, particularly in Wales, with a widespread pilot having taken place in the town of Brecon²⁹.

Household Waste Recycling Centres (HWRCs)

HWRCs are sites available to the public for the disposal, recycling, or reuse of a wide range of household materials and items, including both packaging and non-packaging plastics. These public sites are often under the responsibility of the waste disposal authority, which tends to be managed by the county council and not the district-level local authority.

In 2023, RECOUP released its *Plastics Management and Recycling at HWRCs in the UK* report³⁰ which estimated that of the circa **1,025** HWRCs across the UK, there is around **120,000 tonnes** of plastic (both packaging and non-packaging) that is largely disposed of as residual waste. This is due to challenges relating to the low value and high contamination of the material, its limited end markets, and the prioritising of other heavier materials at these sites that would make greater impacts on recycling rates.

On-the-Go (OtG) Recycling Bins

OtG recycling bins are often local authority operated collections for material that the general public disposes of whilst out and about.

It has long been discussed how best to utilise these facilities, with their importance as a disposal method to avoid littering, but also to ensure that recyclable material can be captured.

Prior to 2020, it was widely communicated that OtG recycling was extremely challenging due to the variation in material types, the way in which it was presented, and the high levels of contamination. As such, it was believed that this material would often be disposed of along with general waste. The COVID-19 pandemic hindered this further, with decreasing quantities of material consumed outside of the home, and logistical challenges for servicing, collecting and sorting material from these systems.



Inconsistency in Collections

The 2023 *RECOUP Survey* looked at several variables that highlight the differences in local authority approaches. These include:

- **Kerbside collection container types**

There are three main types of kerbside collection containers used for dry recyclables in the UK: wheelie bins, boxes, and bags, with some local authorities using a combination of more than one of these. The most common container for kerbside recycling collection is the wheelie bin. However, in recent years, the adoption of alternative units has become more common. It was observed that ‘two stream’ or ‘multi-stream’ collections, which use more than one container or container type, are being used to allow for separate collections of specific materials. This could be particularly important where glass is collected, for example, to meet input and contractual requirements from MRFs and reprocessors, or to satisfy kerbside conditions where wheelie bins cannot be utilised.

Despite the significant variations around containers used by local authorities across the UK, in 2023, **75%** of units used to collect plastics at kerbside were **wheelie bins**, **15%** were sacks or bags, and **10%** were boxes or trolleys.

- **Kerbside collection container colours**

The 2023 *RECOUP Survey* has again researched the variety of colours of collection containers that are used by local authorities across the UK. Of the **75%** of local authorities that use **wheelie bins** for collecting plastic, the most popular colour is **blue (33%)**. Other colours include green, brown, grey, purple, black and burgundy. **23%** use a wheelie bin where the body and lid are two different colours.

- **Co-mingled vs source-separated kerbside collections**

Analysing answers from the 2023 *RECOUP Survey* alongside local authority website communications, it can be reported that **43%** offer a co-mingled collection for recyclables, with different types and formats collected in the same unit. The other **57%** of local authorities use the source-separated method where more than one container is used to segregate recycling materials for collection, often by singling out specific materials such as paper or glass. This is an annual increase of **3%** for source-separated collections and may be due to an increased focus on material quality. However, cost-benefit analyses need to be carefully utilised when comparing the additional costs of kerbside sorting versus the costs to sort co-mingled material at MRFs.

- **Frequency of kerbside collections**

The frequency of recycling collections is an important factor in the effectiveness of a kerbside recycling scheme. Frequency can range from weekly and bi-weekly recycling collections (alternating with the residual collections), to fortnightly, or 3-or-4-weekly collections. The frequency of collection can be influenced by the type of container used for the disposal of recyclables. The 2023 *RECOUP Survey* can report that **71%** of local authorities collect recyclables on a fortnightly basis, **19%** weekly, **10%** 3-or-4 weekly, and less than **1%** more than once per week.

The minimum frequency of residual waste collections is something that is to be defined as part of the *Simpler Recycling*¹⁵ legislation.

Residual Waste Treatment

Residual waste treatment continues to be a key subject in recovering post-consumer plastic packaging. This is particularly important when seeking new sources of material to capture for recycling, and also helps in reducing the amount of recyclable plastic going for non-circular end destinations, as well as avoidable gate fee costs for energy recovery and landfill.

- **Energy Recovery**

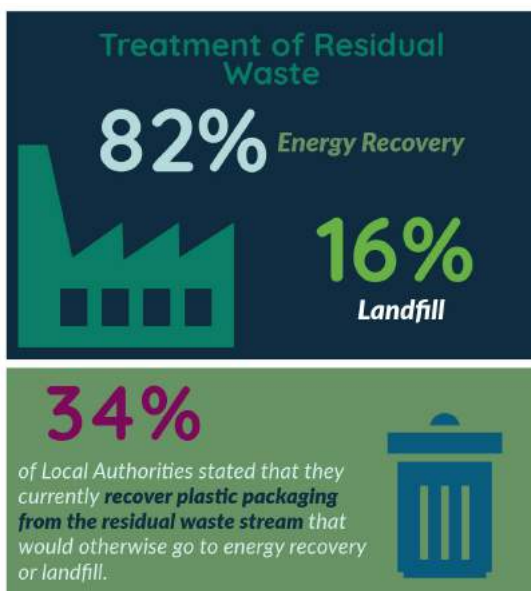
Energy recovery, otherwise known as Energy from Waste (EfW), generates energy (heat or electricity) from a residual feedstock. The UK's capacity for energy recovery has grown exponentially in recent years and is forecast to continue to do so, though this is something that has drawn attention and concern at a European level as a waste solution that takes material out of the circular economy. Responses to the 2023 *RECOUP Survey* report that **82%** of local authorities use energy recovery as a treatment solution for their residual waste.

- **Landfill**

Despite being at the bottom of the waste hierarchy, landfill is still the only viable option for many local authorities disposing of non-recyclable materials. **16%** of local authorities stated that they use landfill as a treatment solution for residual waste. However, this has decreased year-on-year over the last decade, and with progress being made in the growth of alternative end-of-waste options, increased reliance on energy recovery, and higher landfill taxes and fees, quantities of material disposed of at landfills can be expected to continue to reduce.

- **Other Treatments**

Other residual waste treatments include Mechanical Biological Treatment (MBT) which can produce Refuse Derived Fuel (RDF), and Anaerobic Digestion (AD) that can produce biogas to generate heat, power and digestate which can be used as fertiliser.



- **Recovery of Plastic Packaging from Residual Waste**

The 2023 *RECOUP Survey* can report that **34%** of local authorities stated that they conduct some level of recovery of plastic packaging from the residual waste stream. This is material that would otherwise go to EfW facilities or landfill. Whilst exact tonnages cannot be ascertained, those that reported said the amount recovered from the residual waste stream was often fairly low.

The definition of recovery from residual waste streams raises questions as to whether recovered quantities are included in the household recycled quantities reported by local authorities. This material may still find its way into the recycling stream at a stage whereby it is eligible for, and recorded as, part of the Packaging Recovery Note (PRN) data and therefore counted as part of the overall quantity of plastic packaging that is reported as recycled each year.

Although financial and technological barriers limit what plastics can and cannot be recovered from the general waste stream, it will be interesting to see how the development of technology, as well as financial and legislative drivers, impact this over time.

Budget Cuts and Finances

When focusing on local authorities' waste and recycling services, finances and budgets have been stretched for a number of years, and for several reasons. As of late 2023, energy prices, inflation rates and cost of living have continued to remain high. This has impacted all businesses and organisations in respect of how they operate and their costs and expenses.

34% of local authorities responding to the *Survey* this year said that their budgets for the delivery and communications of waste and recycling had been cut for 2022-23. **40%** of local authorities said that they anticipated receiving cuts in 2023-24.

FPF FlexCollect

With just **12%** of local authorities collecting plastic films and flexibles as part of their kerbside recycling schemes, and just **7%** of the material Placed on the Market (POM) being collected, a significant transition is needed to collect and recycle this format effectively.

To inform this transition, RECOUP has been working extensively on the FlexCollect project²⁰. This is a **£3 million** pilot investigating how to build knowledge, provide data and costs, and ultimately lay the foundations to implement kerbside collection and recycling of plastic films and flexibles, which has now been announced as a core material in the *Simpler Recycling*¹⁵ initiative for England.

The project was initiated and led by the Flexible Plastic Fund (FPF)³¹, which was established in 2021, by five founding partners: Mars UK³², Mondelēz International³³, Nestlé³⁴, PepsiCo³⁵ and Unilever³⁶, with partners now including Abel & Cole³⁷, Ella's Kitchen³⁸, Kiddylicious³⁹, Koninklijke Douwe Egberts⁴⁰, KP Snacks⁴¹, Lotus Bakeries⁴², McCain Foods⁴³, Natural Balance Foods⁴⁴, Ocado Retail⁴⁵, The Collective⁴⁶, United Biscuits⁴⁷ and Vitaflo⁴⁸. It also benefits from the expertise of a cross-industry partnership, including Department for Environment Food and Rural Affairs (DEFRA), Ecosurety⁴⁹, UK Research and Innovation (UKRI) Smart Sustainable Plastic Packaging Challenge⁵⁰, SUEZ Recycling and Recovery UK⁵¹, Local Authority Recycling Advisory Committee (LARAC)¹, WRAP⁵² and Zero Waste Scotland⁵³.

- **A Priority for RECOUP**

Plastic films and flexibles are a priority area for RECOUP, and as such a significant amount of time has been spent on the project as part of our core work to support plastic recycling in the UK.

A summary of the local authorities involved and information about their demographics and schemes are as follows:

Launch date	Pilot	LA type	Pilot size	Service type	Material collected	Collection method
October 2022	Cheltenham	Urban, Low deprivation	3,154	Fortnightly, source-separated	All flex	Clear/blue printed collection bags in with rigid plastic & cans / any container
October 2022	South Gloucestershire	Suburban, Mixed, Low deprivation	1,955	Weekly, source-separated	Dry flexibles only (PE & PP)	Clear/blue printed collection bags in with rigid plastic & cans
January 2023	Maldon	Rural, Low deprivation	7,719	Fortnightly, twin stream, glass separate	All flex	Purple printed collection bags, collected on separate vehicle
May 2023	Somerset	Rural, Medium deprivation	3,641	Weekly, source-separated	PE & PP only	Blue printed collection bag and stored on vehicle along with cans & plastic
June 2023	Newcastle City	Urban, High deprivation	7,232	Fortnightly, twin stream (240l wheelie bin with insert for glass)	PE & PP only	Blue printed bags collected alongside plastics, cans and fibre in blue wheelie bin via split back RCV
September 2023	Re3 - Reading	Urban, Low deprivation	4,100	Fortnightly, co-mingled (240l wheelie bin). Bring bank glass	PE & PP only	Blue printed bags collected alongside plastics, cans and fibre in red wheelie bin via single compartment RCV
November 2023	North Hertfordshire	Suburban, Low deprivation	2,174	Fortnightly, twin stream with paper separate in a box	PE & PP only	Blue collection bags presented in, on top of, or next to their paper box



RECOUP has roles in two key areas:

- Lead the recycling end market activities to trial reprocessing of the material into various products.
- Complete material composition analysis on the collected material to both inform the effectiveness of consumer communications and for reprocessors to understand the feedstock they will be receiving.

RECOUP also sit on the steering committee, project delivery group and stakeholder groups.

The interim report will be released soon, which should provide plenty of insight for local authorities and all stakeholders to understand the significant body of knowledge and learnings generated so far, and to also outline plans for the second half of the project, which finishes in March 2025.

For more information, please visit:

www.flexibleplasticfund.org.uk

If you have any questions or would like to request to join the stakeholder group, please contact RECOUP at:

enquiry@recoup.org



Plastics Placed on the Market

Packaging is the main source of plastic consumed in the UK. Collecting data about how much we use is essential, not only to calculate recycling collection rates, but also to highlight areas which require focus and investment within the UK's waste management system.

For a number of years, the *RECOUP Survey* has used the best available data when it comes to plastic packaging quantities Placed on the Market (POM), and its breakdown by format and polymer. In recent years, this has come from Valpak's *PackFlow 2025* report¹⁶, and the subsequent updates and amendments through its *PackFlow COVID-19 Impact* reports¹⁷.

The quantity of plastic packaging that is POM is important for measuring the UK's collection rates and performance, as well as identifying opportunities to collect more material. For the 2023 Survey, the POM figures have declined in order to account for the widespread reduction in plastic packaging.

RECOUP estimates that **1,375,000 tonnes** of plastic was POM in the UK in 2022, a reduction of around **5%** compared to the previous year.

These figures are due to be refined over the next 12 months to get a clearer understanding and breakdown of the amount of plastic packaging on the UK market.



POM Categories

The POM data breaks plastics down into two separate categories:

- **Consumer plastic packaging**

Plastic packaging sold to consumers, primarily for use and consumption in household environments. For example, packaging used in food, drinks, groceries, body care, clothing and DIY products sold by supermarkets and retailers.

- **Non-consumer plastic packaging**

This is plastic packaging that is a mostly commercial and industrial material, with nearly half from 'manufacturing and other' environments, which includes food and drink, textiles, power and utilities, and other industries and services. Back-of-store plastic packaging discarded by retailers and that used by the construction, demolition and agricultural sectors make up a sizeable portion of the remainder of this material.

- **The "other" plastic packaging**

Since 2019, a significant portion of the pots, tubs and trays (PTT) POM figure has included an 'other' fraction made up of predominantly rigid plastics. Breaking the composition of this material down, it is possible to apply some of them to the main bottle, PTT and film POM fractions. Research is ongoing to better understand this fraction.

Estimated Plastic Packaging POM

Whilst estimates can be made and trends understood, plastic packaging POM figures are estimates and are subject to change. Consequently, changes to the POM data mean that the percentage collection rates can go up or down irrespective of changes in collection quantities. This is especially significant for the 2023 *Survey* as whilst overall collection quantities have decreased compared to the previous year, so has the quantity of plastic packaging POM and the waste arising from this.

Impacts on the POM figures over recent years, have included (but are not limited to):

- Cost-of-living crisis.
- Material substitution and light-weighting of packaging.
- Legislative uncertainty.
- The COVID-19 pandemic.





Household Collection Performance

Since the RECOUP Survey first reported plastics collection data in 1994, the UK had seen a growth in year-on-year tonnages, until 2022. This is due to a number of influences both internal and external to the sector.

Data provided in the 2023 RECOUP Survey has seen several changes and challenges that need to be considered. These include:

- Updating of the Placed on the Market (POM) figures in the *Valpak PackFlow Covid Impact: Phase I and Phase II reports*¹⁷ to reflect the impact of the various world events in recent years.
- The composition of data reported as ‘mixed plastics’.
- Changes to non-kerbside collection schemes and its impact on the waste stream, including more widespread front-of-store (FoS) plastic film collections at retailers and moving material away from municipal collections.
- Changes in operations and the merging of some local authorities in England, and the impact on proportional percentages.
- Delays to both the implementation and details around upcoming policy and legislation. This has delayed local authority adjustments to provision and investment in infrastructure to sort and reprocess material.

These are all significant variables to integrate into collection data calculations and are especially important when estimating the composition of plastic packaging collected for recycling.

Plastic Bottles

Only **425 tonnes** of plastic bottles, the equivalent of **9.3 million** bottles, were collected when data was reported in the first RECOUP Survey in 1994. These were mostly collected from bring schemes. As collection schemes widened, by 2003 it was reported that **24,000 tonnes** of plastic bottles, over **500 million** bottles, were collected for recycling. This coincided with the collection of co-mingled dry recyclables from households, with **18,000 tonnes** collected through kerbside schemes and the remaining **6,000 tonnes** through bring schemes.

The infrastructure for collecting plastic bottles from kerbside schemes started to see significant increases in the mid-2000s. This can be largely attributed to many new services being launched as well as existing schemes being expanded, becoming more efficient, and there being greater engagement from citizens.

Since 2019, the kerbside collection of plastic bottles for recycling has been offered by all UK local authorities. In 2022, an estimated **384,000 tonnes** of plastic bottles were collected for recycling.



Plastic Pots, Tubs and Trays (PTT)

Since kerbside collection data for plastic PTT started to be reported in 2007, there has been a significant increase in the quantities collected annually. Around **10,000 tonnes** were collected in 2007, and an estimated **170,000 tonnes** in 2022.

Despite increasing significantly over the last 15 years, around **12%** of local authorities still do not collect PTT for recycling. This provision rate has stagnated in recent years, with only small increases year-on-year. These remaining authorities offer an opportunity in the effort to increase the UK's plastic packaging collection rates. PTT will be part of the consistent items collected for recycling as part of the *Simpler Recycling* legislation from 2026.



Plastic Films and Flexible Packaging

Plastic film has been present in the household plastic packaging recycling stream ever since co-mingled collections were introduced. However, it is only in recent years that interest in the significant quantity of material potentially available has begun to draw focus. In recent years, retailers have introduced bespoke FoS schemes for collecting it. This material will also be part of the consistent items collected for recycling as part of the *Simpler Recycling*¹⁵ legislation from 2027.

With the support of local authority and waste management company data and insight, the 2023 RECOUP Survey has been able to estimate approximately **24,000 tonnes** of plastic film was collected at kerbside for recycling in 2022. However, this is just over **7%** of the film that was POM in the same timescale.

Since 2016, the UK has seen a reduction in local authorities collecting a form of plastic films and flexibles at kerbside, with it peaking at **21%** in 2016, compared to just **12%** in April 2023.



The "Data Challenge"

Estimating household plastic packaging collected for recycling relies on several measurement indicators as outlined in the *Methodology & Reporting* section of this report. Every local authority, waste management provider, Material Recovery Facility (MRF) and Plastics Recovery Facility (PRF) can have a different approach to this depending on operational decisions, economic factors, and the end market availability at that time.

The 'data challenge' is mainly due to plastic packaging fractions increasingly being reported as 'mixed plastics', a co-mingled total for all Dry Mixed Recycling (DMR). This mixed fraction can vary considerably between local authorities for a number of reasons such as the target output and the speed and efficiency of sorting at the MRF. It is more likely that, where the material quantities are higher than average or where the sorting facilities are operating faster, more bottles end up in a PTT or 'mixed plastics' fraction. Also, some facilities only segregate certain plastic bottles like clear PET and natural HDPE bottles and leave others in the PTT or 'mixed plastics' mix for further sorting or export.

The splits of the different plastic formats are never precise and there is not a uniform composition, with the total quantities of plastic bottles and PTT potentially containing other non-target plastic formats.

There was evidence from both the reported collection data and from confidential material composition analysis of kerbside schemes shared with RECOUP, that quantities of plastic bottles and film were going into the PTT stream. It is also widely acknowledged that PET trays are mixed with PET bottles to help find an outlet for this material.

To validate the composition of reported collection data from local authorities, RECOUP has worked with waste management company members, to provide the best and most realistic representation of the data.

Collection Quantities

After analysis of the reported quantities collected for recycling, the 2023 *Survey* estimates **578,000 tonnes** of plastic packaging was collected for recycling from UK households in 2022. This is a decrease in tonnage compared to 2021. However, when taking into consideration that the POM quantity has also decreased, the proportion collected for recycling has remained the same.

RECOUP will continue to engage with local authorities and waste management companies to further understand and reflect on the composition of household plastic packaging. It seems inevitable that figures will be nuanced due to the impact of fluctuating plastic and Packaging Recovery Note (PRN) prices, policy and legislation including *Simpler Recycling*¹⁵ and *Deposit Return Schemes*^{11 13}, and other current and future variables that mean robust and accurate data is essential to understand their influence and success.

Collection Rates

Collection rates are the percentages of plastic packaging POM that are subsequently collected for recycling and is an effective way of assessing overall performance. To ensure these collection rates are as accurate as possible, RECOUP uses the best available plastic packaging POM data to compare against the reported collection quantities.

All data considerations in the 2023 *RECOUP Survey* use the revised POM data calculated from the Valpak *PackFlow COVID-19 Impact Phase II* report¹⁷, with amendments made based on industry data. This helps in understanding the performance of kerbside collections, quantities and composition of material collected at kerbside.

As well as the actual data received from respondents to the 2023 *Survey*, collection quantities (tonnes/number of units) and rates (%) for plastic bottles collected are calculated based on an estimated average of **22,000 bottles per tonne** and the circa **28 million** households in the UK, as recorded in the 2021 *Census*¹⁸.

Actual Recycling Rates

Collection data does not reflect the actual quantity of material that is being recycled. The figures estimated in this *Survey* relate to what is collected for recycling. This is before the process of recycling takes place and therefore material sorting, reject rates and reprocessing yield losses need to be factored in. MRF feedstock input quantities are typically anywhere between **15% to 50%** higher than the reprocessing outputs depending on the quality of the feedstock collected for recycling and presented to the facilities.

Household Plastic Packaging

The 2023 *RECOUP Survey* can report that the overall collection rate for all household plastics packaging in 2022 was **42%**. The collection rate for rigid plastic packaging-only was around **53%**.

Plastic Bottles

Since 2019, **100%** of UK local authorities have collected plastic bottles for recycling at kerbside. Whilst the UK has seen a steady increase in plastic bottle quantities collected through kerbside recycling schemes, 2022 was the first year in which overall tonnages have declined.

The 2023 *RECOUP Survey* can report that an estimated **384,000 tonnes** of plastic bottles were collected for recycling in 2022, a collection rate of **64%**. This is a decrease compared to 2021.

Drinks vs Non-Drinks Bottles

There is a significant difference in the collection and recycling rate of plastic bottles for drinks, and those of non-drinks. Whilst both types include the use of PET or HDPE, their purpose, contents and value vary significantly. As with last year, the collection rates remain **78%** for natural HDPE bottles, **76%** for PET bottles, and **45%** for non-drinks bottles.

The non-drinks bottle fraction is made up of packaging which is often used in other environments around the home, such as kitchen and bathroom products, cleaning fluids and those used for outdoor applications. As such, these are more likely to contain more harmful substances and are at a greater risk of being a contaminant in the recycling process. The collection rate for non-drinks bottles is estimated to be around **45%**.

Plastic Pots, Tubs & Trays (PTT)

Despite variations in the POM data in recent years, collection rates for PTT have increased since 2013 when it was at **20%**. The 2023 *RECOUP Survey* estimated that, in 2022, around **170,000 tonnes** of PTT was collected, giving a collection rate of **39%**.

As of April 2023, **88%** of local authorities provide a kerbside collection scheme that includes PTT. With PTT becoming a mandatory material for recycling collection as part of *Simpler Recycling*¹⁵, it will be vital that the remaining **12%** of local authorities begin the transition to collecting these formats, which in turn will increase capture and recycling rates.

Plastic Films and Flexible Packaging

The 2023 *RECOUP Survey* can report that the overall quantity of plastic film collected remained at around **24,000 tonnes**, giving a collection rate of **7%**.

This is despite year-on-year drops in provision for the collection of plastic film by local authorities, which has reduced to **12%** in 2023. However, it is understood that a combination of bespoke flexible collection schemes (including retailer front-of-store (FoS)) and 'wish-cycling' by consumers (disposing of material that is not targeted), accounts for some of this quantity.

What Plastic Films Can Be Recycled?

Collection rates for plastic films are low due to several factors, including technological challenges in processing them, disproportionately high levels of contamination within the material, and limited value and end markets. Whilst the UK has seen infrastructure develop in the sorting and processing of post-consumer plastic film in recent years, the cost of doing so is understood to be higher than other plastic types. This creates economic challenges at a time when the recycling sector is already struggling due to low virgin prices impacting the industry.

To be recycled, plastic film needs to be presented for recycling by the consumer as cleanly as possible. The inclusion of plastic film and flexibles as a target material for recycling at kerbside within the *Simpler Recycling*¹⁵ legislation creates a significant opportunity to capture a large amount of this plastic material, though necessary interventions will be required to ensure the quality is provided by citizens.

Of the kerbside collection schemes that currently target plastic film, the majority only accept certain types or formats. Most commonly these are single-use carrier bags, but other items sometimes accepted at kerbside include bread bags,



toilet paper and kitchen roll packaging, fruit and vegetable bags, and multi-pack packaging or shrink wrap. Films that are generally considered difficult to recycle, or unrecyclable, include metallised packaging such as crisp packets and pet food pouches, PVC film including cling film, plastic netting and compostable and biodegradable bags.

Non-Packaging and Other Plastics

In the UK, a number of alternative schemes are in place to collect materials and formats that are not currently captured through the primary kerbside collection schemes. These 'away from home' schemes are where people make dedicated trips to bring their waste and recycling material to bespoke services (e.g. bring schemes). They are often serviced as part of the kerbside collection route, or directly from retailer FoS schemes. This generally means that specific weights of material collected from these services are not recorded separately by the local authority.

Non-packaging plastics include the likes of small Waste Electrical and Electronic Equipment (WEEE), as well as other small plastic items such as toys. Though these items are often more likely to be collected at Household Waste Recycling Centres (HWRCs), numerous local authorities offer collection at kerbside separately from other recyclables.

Recycling rates for all UK plastic packaging 2012 - 2022

	Declared as recycled	Placed on the Market	Recycling Rate
2012	640	2,550	25%
2013	710	2,260	31%
2014	842	2,220	38%
2015	891	2,260	39%
2016	1,015	2,260	45%
2017	1,044	2,260	46%
2018	1,034	2,260	46%
2019	1,141	2,290	50%
2020	1,175	2,092	56%
2021	1,112	2,219	50%
2022	1,154	2,220	52%

Total per Household

The kerbside collection rate of plastic bottles and PTT means a total average of **20 kg** of rigid plastics packaging is collected per household. Including plastic films, which only **12%** of local authorities collect for recycling, this increases the total plastic packaging collected per household to **21 kg**.

The average amount of rigid plastic packaging consumed by UK households each year amounts to **38 kg**. For all plastic packaging, including films, this increases to **50 kg**.

- **Plastic Bottles**

The estimated kerbside collection rate of plastic bottles per household in 2022 was **14 kg**. To provide some context around potential collections per household, if all the plastic bottles POM were collected, the kerbside plastic bottle collection rate per household would be **22 kg**.

- **Plastic Pots, Tubs & Trays**

The average kerbside collection rate for PTT in 2022 was **6 kg** per household. If all the PTT consumed in UK households was collected, the collection rate would be **16 kg** per household.

- **Plastic Films and Flexible Packaging**

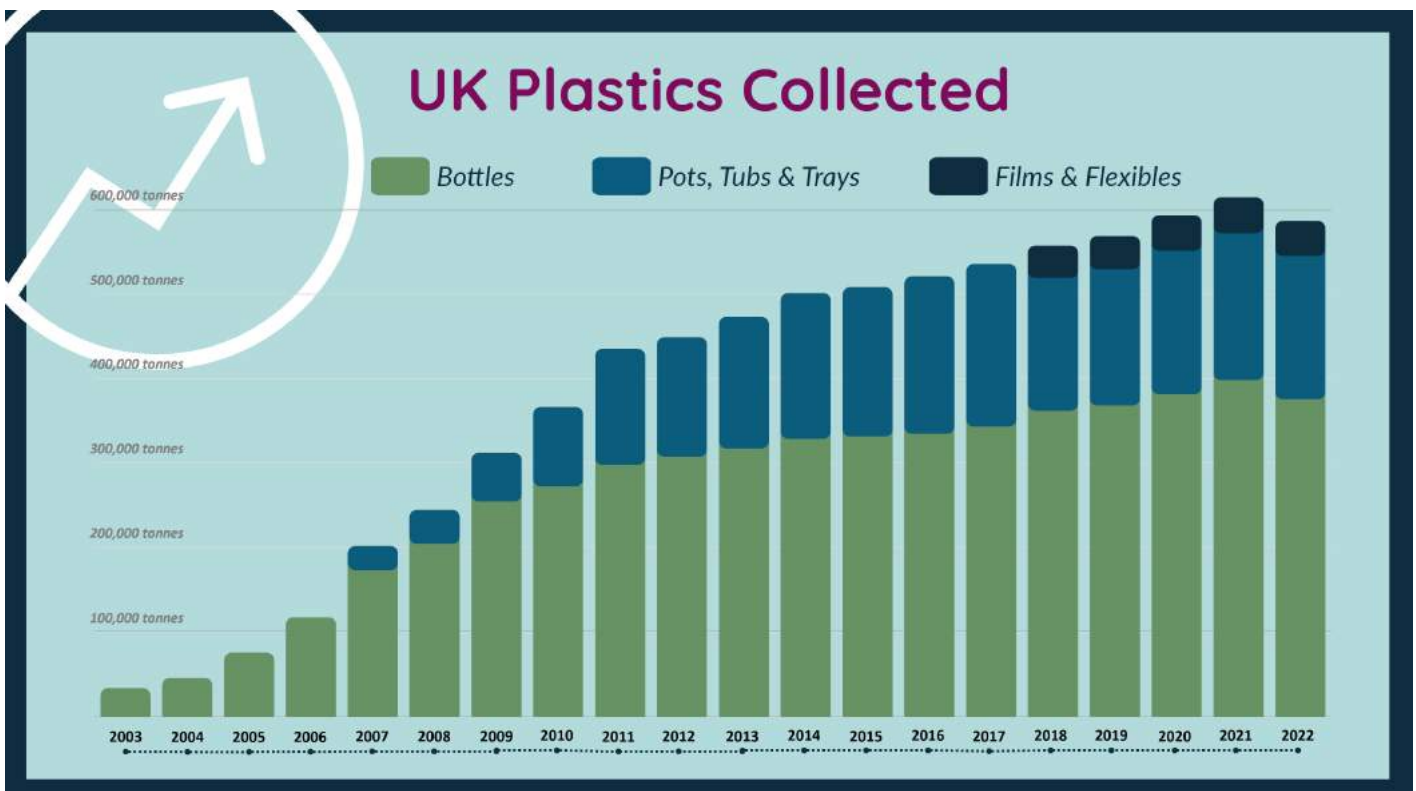
The average kerbside collection rate for plastic films and flexibles in 2022 was under **1 kg** per household. If all the plastic film consumed in UK households was collected, the collection rate would be **12 kg** per household.



Several factors affect the performance of collection schemes, including housing types (houses, flats, etc.), urban or rural areas, and socio-demographics. These all provide logistical and practical challenges to waste and recycling teams. For example, heavily populated areas, particularly those in major cities, have a higher proportion of flats and apartments, making kerbside collections more challenging. Due to this, areas with a greater population density generally have poorer recycling rates.

Contamination and Reject Rates

In response to a question in the 2023 *Survey* about the challenge of contamination, local authorities gave details on their reject rates and residual waste outputs for recycling material collected at kerbside. Of the local authorities that responded to this question, the average reject rate was **14%** across all materials collected. The range was hugely variable, being as low as **0.5%** and as high as **37%**. These examples are the extremes and are not considered to be commonplace, though the overall level of contamination leading to the material being rejected at MRFs is a serious concern.





Household Recycling Infrastructure

RECOUP's UK Plastic Packaging Sorting & Reprocessing Infrastructure report estimates the current capacities for plastic packaging recycling in the UK, and identifies gaps in the available infrastructure that need to be filled if the UK is to be able to meet its sustainability goals without increased reliance on export.

RECOUP's UK Plastic Packaging Sorting & Reprocessing Infrastructure report⁵⁴ helps to inform and provide context around UK infrastructure, specifically in its ability to meet the various targets set in the multitude of current and upcoming UK policy, and the current reliance on export. Due to barriers in collating often commercially sensitive data and the lack of a 'go-to' list of facilities, the capture, analysis and updating of this data is an ongoing activity for RECOUP that will continue into 2024.

According to available sources, **1,154,000 tonnes** of plastic packaging was reported to have been recycled in 2022, **619,000 tonnes** of which was reprocessed in the UK. This was the first time material exported has proportionately increased year-on-year since 2017, a trend that appears to have continued into 2023. More worryingly, non-Organisation for Economic Co-operation and Development (non-OECD)⁵⁵ destinations appear to be reappearing as a viable destination for these materials, increasing to **16%** of all export destinations being non-OECD countries, in 2022.

Looking at the outline data from the UK Plastic Packaging Sorting & Reprocessing Infrastructure report⁵⁴, material sorting capacity at both Material Recovery Facilities (MRFs) and Plastic Recovery Facilities (PRFs), by quantity at least, is not considered to be a barrier to meeting current recycling targets domestically. However, reprocessing capacity is limited, particularly for more challenging formats and packaging types such as food contact packaging, and films and flexibles.

Around **46%** of plastic packaging waste was exported for recycling in 2022. In order to move away from this reliance on processing material overseas, the infrastructure in the UK to sort plastic packaging to the required quality and reprocess this material needs to increase to handle the additional quantities. This demand is primarily driven by the increased requirement for recycled content in packaging to meet targets.



Material Sorting

• Material Recovery Facilities (MRFs)

MRFs are sites which receive and separate household Dry Mixed Recycling (DMR). The mixed material is fed into the system and separated into streams using magnetic, ballistic, and near-infrared (NIR) technology. Each fraction is baled and prepared for shipment to either a PRF, reprocessor, or for export. In 2022, RECOUP estimated that there were **123** MRFs in the UK that could sort mixed plastic packaging from other material streams. It should be noted that this does not differentiate between plastic packaging formats or colours, and it is assumed that the majority of these MRFs will be focused on sorting rigid polymers.

MRFs will accept and sort multiple material types, which means it is not possible to measure an exact and consistent quantity of plastics within the stream. However, by using an average plastic fraction based on various primary data sources, it can be estimated that the UK has an annual sorting capacity of around **1.7 million to 2.1 million tonnes** of plastic packaging from household and some non-household sources each year. After factoring in commercial drivers, actual throughput, and material yield losses, this amounts to between **900,000 and 1.1 million tonnes** of plastic packaging being sorted in the UK annually.

Material Recovery Facilities (MRF)

123
Facilities

Annual throughput

**900kt -
1.1mt**

**1.7mt -
2.1mt**

Annual capacity

• Plastic Recovery Facilities (PRFs)

PRFs receive baled plastic from a MRF where it is subject to further sorting to increase the quality of the material. PRFs generally consist of many NIRs and colour sorters with paper and metal removal systems.

It is understood that several MRFs can achieve similar quality standards to that of a PRF and would therefore bypass this process. As such, whilst these PRFs may provide additional capacity for the sorting and quality improvement of recycled plastics, the UK's capacity to recycle is not dependent on these sites alone. In 2022, there were **7** PRFs in the UK that sorted plastic packaging. The estimated PRF operational sorting capacity is approximately **355,000 tonnes** each year. However, due to these facilities processing other materials, the total permitted capacity for plastics cannot be estimated.

UK Plastic Reprocessors

Household	Commercial & Industrial
16 Facilities	78 Facilities
455kt Annual capacity	515kt Annual capacity
288kt Annual throughput	347kt Annual throughput

Plastic Reprocessing Facilities

Reprocessing is the point at which plastics (often pre-sorted to remove any final impurities) are shredded and washed to remove items including labels, adhesives, dirt, other contaminants and non-plastic fractions. Polymer types are separated accordingly. The resulting regrind or flake may then be sold at this point, or it may be melted and converted into a pellet. As with MRFs and PRFs, measuring the capacity to reprocess plastic packaging is never exact, so the difference between estimated operational output and reported capacity is an important distinction. In addition to this, there is a significant difference between these two figures due to the quality of input material (feedstock) and natural material yield losses through the washing and flaking processes. Other considerations include the differences between the nameplate (or advertised) capacity, and the actual operational throughput that a site sees. This may be due to external reasons such as market factors at any given time, contamination and yield losses varying, or a desire to attract feedstock.

The UK has more than **400** accredited reprocessors that handle plastic packaging in some form or another and at various quantities. **78** of these facilities handle commercial and industrial household plastic packaging, and **16** handle household plastic packaging with an annual capacity of around **455,000 tonnes** and an actual throughput of **288,000 tonnes**.



Food-Grade Packaging and Other Packaging Types

A significant variable in infrastructure is what can be handled or produced. The UK's ability to recycle certain grades and formats of plastic packaging which are hard to recycle, of lower value, or have additional restrictions and requirements, is lacking. This is particularly true of the ability to recycle plastic films and flexibles, non-bottle PET, and food-grade plastic packaging.

Recycled content for food-grade packaging is especially sought after and of higher value due to the additional steps required in its collection and production to ensure that it meets criteria set by the Food Standards Agency (FSA)⁵⁶ in the UK, and European Food Safety Authority (EFSA)⁵⁷ in Europe. Currently, the UK has around **102,000 tonnes** of capacity to produce food-grade packaging made up of **70,000 tonnes** for recycled PET and **32,000 tonnes** for recycled HDPE.

Chemical (Non-Mechanical) Recycling

Over the last number of years there has been rapid development in plans for growing chemical (non-mechanical) recycling infrastructure, both in the UK and internationally. Chemical, or 'non-mechanical' recycling, is an umbrella term to describe a number of different recycling processes. These technologies process polymeric waste by changing its chemical structure to produce substances that can be used as products or as secondary raw material ingredients in the manufacture of new products. The name 'chemical recycling' comes from the process of returning these plastics into their base feedstock chemicals, so that they might be used again, diverting the materials that would likely otherwise go to landfill or incineration, and instead achieving circularity.

There are five main types of chemical recycling:

Depolymerisation

The breaking of pre-sorted polymer material down into smaller chain polymers, oligomers and/or monomers. Several methods can achieve this, but most commonly a solvent is used.

Purification

The use of a highly selective solvent to clarify a pre-sorted material to a pure polymer participate.

Pyrolysis

The use of very high heat and pressure to melt polyolefins to oil which can be subsequently separated through cracking.

Gasification

The use of very high heat to gasify mixed plastic waste, which can be subsequently separated through cracking.

Hydrothermal Treatment

The use of water at high pressure and heat (steam) to dissolve mixed plastic waste into a light oil which can be subsequently separated through cracking.

Chain of Custody (CoC) Models

One challenge facing chemical recycling infrastructure is how it can integrate with developing environmental policy. Examples have been seen in discussions around the *Plastic Packaging Tax*¹⁰ specifically, with commercial scale chemical recycling unable to provide physically traceable evidence of recycled content in the same way as mechanical recycling. There are several CoC models that have been proposed to help overcome this:

Segregation. This keeps material and products separate from virgin stock, and recycled content can be blended with virgin material, allowing recycled content to be accurately determined.

Mass balance. This is a method involving reconciliation of recycled content based off of the assumption that, minus losses and co-products, all input plastic waste can be reattributed at the point of sale. There are several forms of mass balance:

- **Free Allocation (FA).** Units of recycled content credits brought can be freely attributed among products, regardless of product type.

- **FA Fuel Exempt / Fuel Excluded.** A form of free allocation, but any credits generated for use in fuels cannot be freely allocated.

- **FA Polymer Only.** A form of free allocation, but only credits generated for use in polymer production can be freely allocated among polymer products.

- **Proportional Allocation.** The recycled content in products are of the same proportion as the ratios which were blended for product generation.

For local authorities, chemical recycling has been pitched as a possible future solution for mixed waste streams that do not currently have widescale mechanical recycling solutions. As of late 2023, only **1** commercial scale site is in operation in the UK⁵⁸, and it remains to be seen how the development of legislation, among other factors, sees the infrastructure develop over the coming years.

Export

The UK has long relied on export for recycling plastics, and other materials, as a way of meeting its targets. At the end of the last decade, some countries (most notably China) restricted or stopped accepting waste for recycling entirely. The knock-on impact of this was other countries taking more material, but also a growing focus on the need to develop domestic infrastructure. In 2017, the amount of material declared as recycled that was exported was as high as 65%. In 2022, this was **46%**, with the largest receiving country being **Turkey**.

In comparison to 2021, there has been a small growth in the proportion being sent to export and a worrying number of non-OECD countries receiving higher quantities of material. What was a low of 6% in 2021 increased to **16%** in 2022. Initial data suggests that both the overall export percentage and the amount going to non-OECD countries⁵⁵ are likely to grow again in 2023.

The export of material is further complicated by inconsistencies between the Packaging Recovery Note (PRN) and Packaging Export Recovery Note (PERN) system, which effectively offers a financial incentive for the export of material due to how the weight of the material is calculated.

Whilst this year's *Survey* suggests that local authorities predominantly see their waste processed in the UK, export trends raise a number of concerns. Whilst the data relates to the export of material done officially via the Environment Agency (EA)⁵⁹, news stories of UK plastic waste being found dumped in non-OECD countries⁵⁵ (most recently, in Myanmar⁶⁰) paint a different picture. It also suggests an issue in the capacity and economics to make UK recycling of its waste viable.

With a consultation due on limiting waste export to non-OECD destinations⁵⁵, as well as changes to costs associated with notified waste from England and Scotland, and *Green List* waste⁶¹ from the UK, this will be an area of focus going into 2024.

Conclusion

The UK requires significant investment in its current infrastructure to ensure that it can manage the revised waste streams in the coming years, and to a sufficient quality. At present, there is a big discrepancy between the collection and recycling of high-value and high-quality plastics and formats, such as food-grade PET and HDPE, and low-value and hard-to-recycle household plastics, such as films and flexibles.

There are challenging commercial conditions and fine profit margins in the reprocessing sector, indeed if profits are delivered at all. This has been squeezed further in 2023 with the challenging markets and recycled plastic prices in comparison to virgin, as well as cheap imports. Financial investment is needed to build technological solutions and operational business cases for this sector to make them commercially viable. In terms of the development of infrastructure, several factors and considerations are likely to impact upcoming facilities. Most notably, the current increase in energy costs is affecting all businesses in the UK, and internationally, particularly those that are energy-intensive such as sorting, reprocessing and chemical recycling facilities.

For the UK to progress its recycling rates, there needs to be a focus on a number of areas to transform its capability to recycle its plastic packaging. These include:

- Infrastructure to recycle plastic films and flexibles, non-bottle PET, and food-grade plastic packaging.
- Review of the current export system.
- Review of the current PRN and PERN system.



Household Waste Recycling Centres

Household Waste Recycling Centres (HWRCs) provide an essential service to citizens to dispose of items and materials that are not suitable for collection through kerbside schemes.

Household Waste Recycling Centres (HWRCs) are municipal sites under the remit of county councils rather than district councils, and therefore the ownership and responsibility, as well as the target materials, can vary from site to site.

HWRCs are often large facilities where local residents can bring items to be disposed of, with sites set up to separate different material types (e.g. large appliances, small appliances, paper, textiles etc.). By weight, it is believed that the majority of collected items will be building rubble and aggregate, electronics and white goods, and garden and other waste. However, a significant quantity of plastic is known to be disposed of at these sites.

Despite handling a sizeable quantity of waste plastic, data about HWRCs is scarce and often inconsistent. There is not an in-depth, easily accessible, public dataset of HWRCs and the materials they accept. Furthermore, this means that data around collection quantities and recycling rates for all plastics including packaging are limited, or are combined with other plastic packaging available from WasteDataFlow (WDF)¹⁹ entries, which are often not clear in measuring individual HWRCs or local authorities.

Another challenge is that the value and quality of the plastic deposited at HWRCs is low in comparison to kerbside collected material, and other material types collected at HWRCs. This is due to challenges around the nature of the items disposed of, including their composition, contamination, potential damage, and the fact that they are often made of poorer quality material. Combined with the increased expense and regulations of transporting these bulky items to an end destination, and the comparatively higher value of other materials such as metals and glass, there is a challenge in terms of the economic viability to put in place a process for recycling these materials. A lack of viable end markets for this material then causes a problem in reclaiming any of the cost, due to the poorer quality or less-viable feedstock it would provide.

In 2023, RECOUP released its *Plastics Management and Recycling at HWRCs in the UK* report³⁰ which estimated that at around **1,025** HWRCs across the country, **120,000 tonnes** of plastic (packaging and non-packaging) was disposed of annually.

This amounts to an average of **2 to 3 kg** of plastic waste per household in the UK disposed of at HWRCs each year.

Whilst placing a value on this material is somewhat arbitrary due to the significant variation in plastic types and the potential for contamination, it is possible to show the significant cost associated with the disposal of this material through gate fees and landfill taxes. Based on 2022 averages, it is estimated

that the disposal of the **120,000 tonnes** of plastic by landfill, Refuse Derived Fuel (RDF) and Energy from Waste (EfW) would cost in the region of **£13 million** in taxes and fees. The value of potential Packaging Recovery Notes (PRNs) may also be a benefit to factor in but would only apply to any packaging fraction.

RECOUP recommends a number of interventions that would enable plastic disposed of at HWRCs to better fit into circular economy models:

- A robust data-led system is needed to help rectify the current absence of collated, accurate and thorough data. This would enable:
 - A greater understanding of both the composition and quantity of plastic material that is disposed of at HWRCs annually.
 - A better understanding of the variation between the four devolved nations and the impact of this.
 - A greater understanding of the end destinations for plastics currently collected at HWRCs to identify what proportion is sent for recycling, reprocessing and reuse in the UK, and how much is sent for landfill, incineration, other non-circular outcomes, and export. At present, the destination for these materials known to local authorities is likely one step removed, particularly concerning sorting and export, with the outcome for these materials often unknown.
- Greater investment in UK reprocessing infrastructure capacity for rigid and hard plastics typically disposed of at HWRC sites. This would create new raw materials that can provide feedstock into a range of end markets, and rectify the known shortfall in UK reprocessing capacity, especially for 'hard-to-recycle' plastics as identified in the 2022 UK Plastic Packaging Sorting & Reprocessing Infrastructure report.
- Further development of reuse centres, where items disposed of are recovered, repaired and sold on. This helps to reduce the overall amount of material placed into waste streams, especially that which is 'hard-to-recycle'.

RECOUP has also identified two further steps to build on current research:

- While the *Plastics Management and Recycling at HWRCs in the UK* report³⁰ has gathered data and evidence around the types and quantities of materials and how they are managed at HWRCs across the UK, the variables associated with each devolved nation, and the way they manage their materials at HWRCs, provide different solutions for each that could be explored.
- Investigation into how other countries, particularly those in Europe, manage rigid and hard plastic through kerbside and non-kerbside schemes could provide learnings the UK could adopt.



Reuse & Refill Systems

Interest in reusable packaging has grown in recent years. A number of regulatory and voluntary agreements, growing consumer interest, attention to the environmental credentials of packaging, interest in zero-waste shopping, and the consideration of reusable packaging options among the public create a good starting point for the adoption of reuse at scale.

Despite plastic often receiving bad publicity, the highlighted situations are often issues of mismanagement rather than being about the plastic itself.

Plastic is an excellent choice for reusable containers due to its properties: lightweight; durable; a range of barrier properties for water, light and oxygen; suitable for use in a range of temperatures from oven to freezer, including microwave; versatility in visual characteristics; rigid and flexible options; and established reprocessing routes.

However, there are major challenges to introducing a reuse system. These including the requirement of a whole new logistical solution, additional washing/reuse preparation steps, and changes in consumer behaviour; the efficiency and economics of which are crucial.

Return rates and the number of reuses of an item are equally important challenges. How many times can the container be washed and reused before it needs to be replaced? How simple and economical is it for the consumer to return the packaging? Looking at the reuse experience from the consumer's point of view, making it as simple as possible, will lay a good foundation for high consumer participation rates.

Reuse systems are essential for a truly circular economy and are the primary strategy to keep materials in circulation at their highest value. Each reuse cycle not only substitutes the production, transportation and distribution of the new single-use item, but also avoids the burden of end-of-life management. However, even with the best design intentions, the number of uses will usually range from five to twenty; after that, the container will enter the waste management system.

Therefore, it is essential to look at the entire life cycle of the reusable packaging, ensuring it is designed to include recycled content wherever possible and be recyclable when it can no longer be reused to maximise its environmental benefit.

Reusable Container

A container used multiple times for dispensing the product for use by the consumer. This container can be purchased from a retailer empty or containing a product, or the consumer can repurpose another container to suit their needs.

Refill Container

A container used for transporting the product and decanting it into the reusable container. Usually lightweight, with a pouring/dispensing lid.

To help understand, plan, and implement a reuse system, it is useful to understand the type of system that is most suitable for that particular product. Widely adopted by the industry, the Ellen MacArthur Foundation⁶² classification of business to consumer reuse suggests four reuse categories:



These categories are based on ownership of the container (including who does the washing and preparation for reuse) and reuse location, either at home or On-the-Go (OtG).

More brands and organisations are offering refillable or reusable products and services to meet customer demand and achieve companies' sustainability targets.

Refill At Home

There are a wide range of refill container options when it comes to refill at home.

A variety of liquid refills come in refill pouches. These are often multi-layer laminated PET or PE which are not currently acceptable in kerbside collections. Dedicated collection points are becoming more common, such as retailer Front of Store (FoS) collection schemes for household films and flexibles, where these pouches can be taken. A small number of products are sold in compostable pouches which are not currently accepted at kerbside for recycling or recovery and are also not accepted at FoS schemes. Those compatible with home composting can be composted at home, otherwise they would need to go to an industrial composting facility.

Also quite common is the jerry can refill options, often in 5 and 20 litre HDPE containers. These containers are widely recyclable. However, the larger containers are too bulky for kerbside collection.

Another option available for some products are refill tabs which need to be dissolved. These typically come in cardboard packaging and take up much less space which is better for transportation and storage.

Other refill options include: concentrates, cartons, lighter simpler packaging options such as PP tubes, cardboard boxes and paper sachets.

Refill On-the-Go (OtG)

This is probably the most widely recognised form of reuse. Over the last 5 years, there has been a significant increase in the number of refill shops, as well as the development of refill aisles in some major supermarkets. Customers are invited to take their own reusable containers into store and refill the desired quantity of a product (e.g. pasta and washing up liquid). The only packaging needed is for transporting the products to store in bulk quantities. The responsibility for this packaging falls on to the outlet and/or the manufacturer. There are developments in these systems, looking to ensure that this bulk packaging is reused, or at the very least recycled. Some supermarkets also allow customers to use their own reusable containers on their counters (meat / fish / deli), with some actively encouraging this.

In addition, reusable coffee cups have made reuse OtG more accessible. This is slowly increasing for takeaway food options too, although much less mainstream.

Return From Home

Examples of return from home are much less widely available and less heard of but are being trialled by some large organisations. The most well-known is the partnership between Tesco and Loop that trialled a mix of big brands and own brand everyday essentials in reusable packaging that was returned to store or collected from home⁶³. This particular trial has finished, but other pilots are still being undertaken, and more are likely to follow.

Trials of other packaging types have also been developed, such as those in participating restaurants across three town councils in Wales⁶⁴. Tiffin boxes and aluminium pizza boxes are used for deliveries, which would be returned via a collection service, and could be reused up to 200 and 30 times respectively before being recycled into a new reusable box.

Return On-the-Go (OtG)

Many coffee shops and food outlets are now trialling or implementing return OtG schemes, supplying reusable packaging to be returned for cleaning and reuse. There are a number of different models for this:

- With and without deposits.
- Using a tech platform or an app.
- Issuing fines for delayed return rather than taking a deposit.
- Banning single-use options.
- Discounts and promotional offers.

Return OtG schemes are easier to implement in closed loop environments such as workplaces, educational facilities, and large-scale events, where the packaging is used on-site and can easily be collected through collection points, but it is being used in open environments as well.

Return OtG is also being trialled in some supermarkets alongside their refill OtG options, with prefilled company owned reusable containers.



Bring it Back Case Study

The Bring it Back project⁶⁵ was led by Peterborough Environment City Trust (PECT)⁶⁶ and was in collaboration with RECOUP. This initiative was one of six projects around the UK funded by Hubbub⁶⁷ and Starbucks' Bring it Back Fund⁶⁸, which was set up to fund innovative solutions and systems for sustainable packaging in the food and drink industry.



The project sought to highlight the negative impact of disposable and single-use packaging in the UK. For example, fewer than 1 in 400 coffee cups are recycled in the UK. Reusable packaging schemes aim to combat this issue, and help communities, businesses and governments move towards a circular economy. The hyper-local Bring it Back project⁶⁵ sought to implement a series of company-owned reusable packaging schemes in different community groups and contexts across Peterborough and the surrounding area. The project enlisted behavioural scientists from the University of Sheffield⁶⁹ to help design pilots and measure effectiveness, as well as working with Kakadu Creative⁷⁰ who assisted with brand creation and marketing support. Using survey data and focus groups to elicit the barriers and enablers of Bring it Back concepts, the project team worked with community groups to develop tailored campaigns. Qualitative and quantitative methods were used to measure the take-up and return rate of reusable packaging schemes trialled in five different communities to provide evidence and suggestions for the future of company-owned reusable packaging trials. Quantitative methods were used to measure and then prioritise barriers and enablers to the uptake of reusable packaging systems that are most salient to consumers and thus, should form the focus of the intervention messages.

The communities involved in the trial were in Oundle and Peterborough. They consisted of: five cafes, two schools, two onsite cafes/restaurants within a nature reserve, one butchers, and one office canteen. The sites were a mix of open and closed loop environments. The main packaging types used in the trials were reusable coffee cups to replace single use coffee cup packaging. However, in one of the schools the packaging used was reusable plates and bowls, and at the office canteen and one café it was both reusable coffee cups and reusable food packaging containers.

There were four phases to the research:

- Phase 1: Elicitation of the barriers and enablers of company-owned reusable packaging schemes.
- Phase 2: Developing the Bring it Back pilots.
- Phase 3: Implementation and monitoring of the pilots.
- Phase 4: Assessing a change in attitudes, awareness, and behaviours.

Overall, the project aimed to increase awareness of the importance of company-owned packaging and increase uptake of local and wider Bring it Back schemes. Throughout the communities, **39.4%** of participants were aware of reusable packaging. Additionally, the results show that the project has promoted the importance of company-owned reusable packaging, with most respondents of the ethnographic survey saying that they used a reusable choice for environmental/sustainability reasons, i.e., helping the environment, reducing waste.

The key outputs include:

- 1) **35%** increase in awareness of the importance of company-owned reusable packaging in participating communities.
- 2) **35%** uptake of local Bring it Back pilots.
- 3) **25%** increase in wider use of Bring it Back schemes measured through surveys.

One of the main recommendations as a result of the project was around the deposit system for the reusable packaging. It was found that, although there was a good uptake of the packaging, the return rates faltered with the lack of incentive to return the packaging.

The Bring it Back⁶⁵ report will be made available to RECOUP members in early 2024.





Citizen Communications

Citizens are the first point at which packaging enters the recycling system, and as such they have a major role to play in ensuring these valuable resources are presented correctly. To do this, communication is essential in ensuring that citizens know what to do with their waste packaging.

Communication to citizens is crucial in the effort to drive up collection quantities and reduce contamination. Policy developments are due to assist with this, including *Simpler Recycling*¹⁵ ensuring consistency of what can be recycled across the country, and the reform of the UK's Packaging Producer Responsibility System (*Extended Producer Responsibility* or *EPR*)⁸ which should increase funding for strategic citizen communications and behaviour change activities.

Due to political and business incentives, there is an increasing need to recycle more plastics in the UK, as well as increase recycled content in plastic packaging. How the consumer performs is the important first building block to producing a high-performing recycling sector in the UK, as reduction of contamination not only increases the amount of recyclable material that is captured correctly but also increases the quality of all recycle through the absence of non-target materials.

Each year, reducing contamination is identified as a key area of focus for local authorities when it comes to their communication campaigns with residents. In response to the 2023 *Survey*, of the local authorities who reported delivering campaigns in the last three years, **62%** focused on the **reduction of contamination**. **57%** communicated the '**Reduce, Reuse, Recycle**' message, **26%** on the **reduction of fly-tipping**, and **24%** on each the **reduction of litter** and **clarifying target and non-target materials**. **57%** of local authorities reported that they conduct an **ongoing campaign** concerning waste and recycling, whilst a further **23%** had done so in the last 12 months.

Whilst *Simpler Recycling*¹⁵ legislation will ensure that the accepted materials for recycling will be consistent from one local authority to another, further information should also be communicated to residents. This includes how the material should be presented, such as loose, squashed and (for bottles) lids kept on.

For the 2023 *RECOUP Survey*, research was carried out to understand the instructions being communicated to residents through local authority websites. The messaging varied across the UK, both in the language used and instructions given. This is particularly evident when looking at whether local authorities ask residents to leave lids on plastic bottles or remove them. The *Survey* found that **35%** of local authorities ask for **lids on** bottles, **14%** ask for **lids off**, and the remaining **51%** do not communicate a preference either way. There is also further variation as to whether the separated lids are communicated as being able to be recycled or not.

Although there may be operational issues at Material Recovery Facilities (MRFs) around the equipment being able to pierce bottles before they are compacted and baled, there are benefits to collecting bottles with their lids attached. If citizens squash a bottle and re-attach the lid, it gives the lid a chance of being recycled with the bottle, reduces the volume of the item, and helps to prevent possible liquid contamination from the bottle leaking onto other recyclables. With the widespread adoption of clear bottle lids for milk bottles, there is also a greater chance of this plastic fraction being captured and being recycled into food contact applications, which is a valuable resource.

Other messaging that is communicated by local authorities to their citizens include: **84%** asking for items to be **empty, rinsed and/or washed**; **49%** asking for items to be **flattened or squashed**; and **48%** asking for items to be **disposed of loose** and not bagged.

While most local authorities have moved away from describing their target and non-target recycling materials by **polymer codes**, **8%** still use them in their communications to residents. Considering the range of polymers that can be used for packaging formats, including mixes of multiple plastics and other materials, RECOUP recommends that polymer codes are not used as a method of communicating recyclability to residents.





Pledge2Recycle Plastics

Increasing material quality through the promotion of waste reduction and recycling of plastic is one of the main aims of RECOUP, and *Pledge2Recycle Plastics* provides education and guidance to enable citizens of all ages to recycle more and recycle right.

Local authorities face continuing pressures on their services and the *Pledge2Recycle Plastics* team can support, advise, and work in partnership with councils to provide ready-made resources, information, and communications campaigns to their residents. The campaign content is aimed at not only improving capture rates but also reducing contamination as well as the level of plastics packaging finding its way into residual waste.

Ahead of *Simpler Recycling*, *Pledge2Recycle Plastics* has launched a new website with simple and concise language concentrating on key messages focused on answering those questions repeatedly asked by communities over the years.



To aid understanding the campaigns include video content of the recycling journey of plastics and explain how plastics packaging is collected, sorted, reprocessed and the new products that can be made. There is a focus on bottle-to-bottle circularity (both PET and HDPE) which can be promoted across the whole of the UK in line with the full collection of plastic bottles kerbside.

Social media conversations are undertaken by the Pledge team via Facebook, X (formerly known as Twitter) and Instagram, and the team answer these directly based on the technical knowledge of the plastics recycling value chain at RECOUP. All conversations are rooted in the facts of what happens to plastics packaging, whilst at the same time a knowledge and understanding of Materials Recovery Facility (MRF) systems and local authority target/non-target lists. This includes the challenges around small items, films and flexibles, full sleeves, and all plastic products, in particular the recyclability of pots, tubs, and trays (PTT). The question of contamination is also covered within the communications including how clean packaging needs to be when presented for recycling, along with questions on how the colour of a pack impacts on 'recyclability'.



Many citizens want to recycle and to 'do the right thing' which can lead them to make assumptions as to whether items are recyclable or not. This can unknowingly lead to contamination when they try to recycle items that are not currently widely collected at kerbside for recycling, such as crisp packets and flexible packaging. The *Pledge2Recycle Plastics* team support local authorities by conducting pre-collection bin checks and helping to advise citizens where they have made mistakes.

Citizens also need to be reminded of the basic principles of plastic bottle recycling, ensuring the bottle is empty and replacing the lid before recycling. Pledge also strives to drive citizens to recycling solutions beyond kerbside and in particular the recycling of plastic bags and wrapping via retailer Front of Store (FoS) provisions.

Ahead of moving towards a more uniform range of plastic packaging being collected kerbside, and as RECOUP and others continue to drive recyclability through packaging design, the exceptions to the rule will diminish. It is important to keep updating the message as citizens attempt to take onboard the changes. Simplification in messaging and guidelines is just as important as the simplification of the recycling systems themselves.

The *Pledge2Recycle Plastics* team are always keen to engage with local authorities to provide independent support and information. RECOUP would encourage all local authorities to link with *Pledge2Recycle Plastics* on their website. This can be done by linking both the website: www.pledge2recycle.co.uk and connecting on social media by searching @pledge2recycle.



Durham Recycles Case Study



Following on from the *Kent Understanding Plastics*⁷¹ project in 2021/2022, RECOUP looked to test the learnings and trial a simpler suite of recycling guidance and advice to citizens. *Pledge2Recycle Plastics* partnered with Durham County Council⁷² and Biffa⁷³ to embark on a countywide plastics communications project.

A key outcome of previous *Pledge2Recycle Plastics* work and insights has been the conclusion that citizens were more likely to recycle more if they understood better the recycling journey and what happens to plastics after it is collected by the local authority. Videos were commissioned to highlight what happened on a regional basis and how PET plastic bottles, HDPE milk bottles and plastic pots, tubs and trays (PTT) were collected, sorted, and recycled in the area.

To provide a one stop shop for plastics communications and information the county was provided a dedicated website: www.durhamrecycles.co.uk where residents could get information and find out where the *Pledge2Recycle Plastics* team were visiting or hosting an event. The project was rooted in the community with a range of events planned throughout 2023 including: roadshows, school assemblies, parish council presentations, youth club visits, community fun days as well as interaction with shoppers at Tesco and Asda stores. Social media was also utilised for target messaging such as reminders to put the tops on bottles, and the call to recycle clean, dry and loose.



www.durhamrecycles.co.uk

Leaflets were also distributed county wide with key recycling information. The leaflet covered all materials not just plastics, with a focus on reducing contamination as well as clarifying target recycling materials.

A highlight of the project was the attendance at this year's Seaham Food Festival⁷⁴. This enabled conversations on food waste and the linkages between plastics packaging and recycling. The team distributed fridge magnets, with queues forming at the tent as citizens were keen to discuss and engage, despite the challenging weather.

The project will culminate in a schools design challenge with winners to be announced in early Spring 2024. Marmax Recycled Plastic Products⁷⁵ and The British Plastics Federation (BPF)⁷⁶ have partnered the project to look to engage with schools (both primary and secondary) asking for designs of products which could aid plastics recycling in the home enabling people to recycle more and recycle right.

Pledge's on the ground work in Durham⁷⁷ will conclude at the end of 2023, and a full report and data summary is expected be made available in 2024.

✓ **Yes please** In Recycling Bin

<div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>PLASTICS</p> <ul style="list-style-type: none"> ✓ Plastic drinks bottles Empty, squash, lid back on and recycle ✓ Plastic milk bottles Empty, squash, lid back on and recycle ✓ Kitchen cleaner bottles Empty, lid back on and recycle ✓ Bathroom product bottles Empty, lid back on and recycle ✓ Sauce bottles Empty, rinse, lid back on and recycle ✓ Pots and tubs Empty, clean and recycle ✓ Fruit and vegetable trays Remove film lid and absorbent layer and recycle ✓ Raw meat trays Remove film lid, absorbent layer, rinse and recycle </div> </div>	<div style="display: flex; align-items: center;"> <div style="margin-left: 10px;"> <p>OTHER PACKAGING</p> <ul style="list-style-type: none"> ✓ Food and drink cartons ✓ Tin cans ✓ Aluminium foil ✓ Aerosols </div> </div> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-left: 10px;"> <p>PAPER AND CARD</p> <ul style="list-style-type: none"> ✓ Cardboard boxes ✓ Newspapers and magazines ✓ Cardboard packaging </div> </div>
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✓ **Yes please** In Recycling Box

GLASS

- ✓ Glass bottles
- ✓ Glass jars
- ✓ Non-food bottles (perfume, aftershave etc)
- ✗ No plate glass or mirrors
- ✗ No light bulbs
- ✗ No ceramics

✗ **No thanks**
Not in your Recycling Bin

<ul style="list-style-type: none"> ✗ Greasy takeaway pizza boxes ✗ Plastic bags and wrappings* ✗ Black plastic ✗ Nappies ✗ Batteries** ✗ Toys and garden furniture ✗ Small electrical items 	<ul style="list-style-type: none"> ✗ Food ✗ Clothes/Shoes/Textiles ✗ Scrap metal/Wood ✗ Polystyrene/Bubblewrap ✗ Kitchen roll/Tissues ✗ Carrier bags/Bags for Life* ✗ Crisp packets* 	<ul style="list-style-type: none"> ✗ Sweet/Biscuit wrappers* ✗ Biodegradable/Compostable ✗ Light bulbs ✗ Toothpaste tubes ✗ Coffee cups ✗ Plant pots
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* Take to front of store in large supermarkets
** Recycle in various stores

Remember to make sure your recycling is clean, dry, loose and squashed where possible.

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Recycled Plastics Markets

Historically it has been more attractive to export material for recycling rather than doing so domestically due to the financial incentives created by the packaging producer obligation system and the use of Packaging Recovery Notes (PRNs) and Packaging Export Recovery Notes (PERNs). This is despite the additional challenges of verifying and auditing outcomes of material that has been exported.

Whilst the last few years have shown a decline in reliance on export, particularly to EU Member States, 2022 has seen an increase in export. This has included an increase in material going to Organisation for Economic Co-operation and Development (OECD) countries⁵⁵ and, more concerningly, non-OECD destinations.

Countries from Asian markets, particularly China, which previously took high quantities of recycling materials from European Union (EU) Member States, have restricted or banned the import of plastic waste for recycling, or changed the quality of materials they are willing to accept. This has led to reports of household and other low-quality plastic waste stuck at ports or returned to its country of origin. Since this, we have also seen other major export markets enforce restrictions, requiring higher quality material. Data in 2022 shows that, despite changes in legislation requiring lower levels of contamination and higher quality of material, **Turkey** remains the primary destination for plastic packaging exported for recycling from England, although this is down on previous years with a notable increase on EU destinations.

Plastic Packaging Recycling Rate

The Environment Agency's (EA) *National Packaging Waste Database* (NPWD)⁷⁸ reports the quantities of plastic packaging recycled within the UK and what is exported for recycling.

For 2022, NPWD reported a preliminary figure of **1,154,000 tonnes** of plastic packaging declared as recycled from all sectors, a recycling rate of **52%**. Plastic packaging collected from households accounts for around half of the UK's total recycled plastics. In 2022, **46% (535,000 tonnes)** of the total recycled was exported and **54% (619,000 tonnes)** was recycled domestically. This is a significant shift towards domestic recycling in comparison to previous years where as much as 65% was being exported. The change could be due to several factors including the UK leaving the EU (making the export of waste more challenging) increasing the cost of transportation, and tightening legislative controls.

On 1 January 2021, changes were made to the *Basel Convention*⁷⁹ coding and controls for the export of waste plastics. These changes mean that only plastics which are destined for recycling operations can be exported under *Green List*⁶¹ controls if they consist of one type of plastic that is almost entirely free from contamination, or mixtures of PP, PE and PET on the condition that they are destined for sortation and recycling. All other plastic exports must be notified and receive specific consent for export prior to any shipment.

Plastic packaging recycling continues to provide income generation, employment and business opportunities for local authorities, waste management, and reprocessing providers. However, they operate in tough commercial conditions, with fine or no profit margins. As such, all elements of the recycling chain must be financially viable for recycling to take place. This is something that has become increasingly challenging in recent years due to the COVID-19 pandemic, fluctuations in both oil and PRN prices affecting economic conditions, increased energy costs, and the viability of using recycled content in new packaging and products. In 2022 and 2023, low demand for recycled plastics and cheap virgin plastics being available has impacted recycling even further.

PRN, Plastic and Processing Prices

In 2022, PRN prices averaged **£228 per tonne**, compared to £81 per tonne the year before. These ranged from highs of **£420**, to as low as **£60**. The range in 2021 was from £50 to £120.

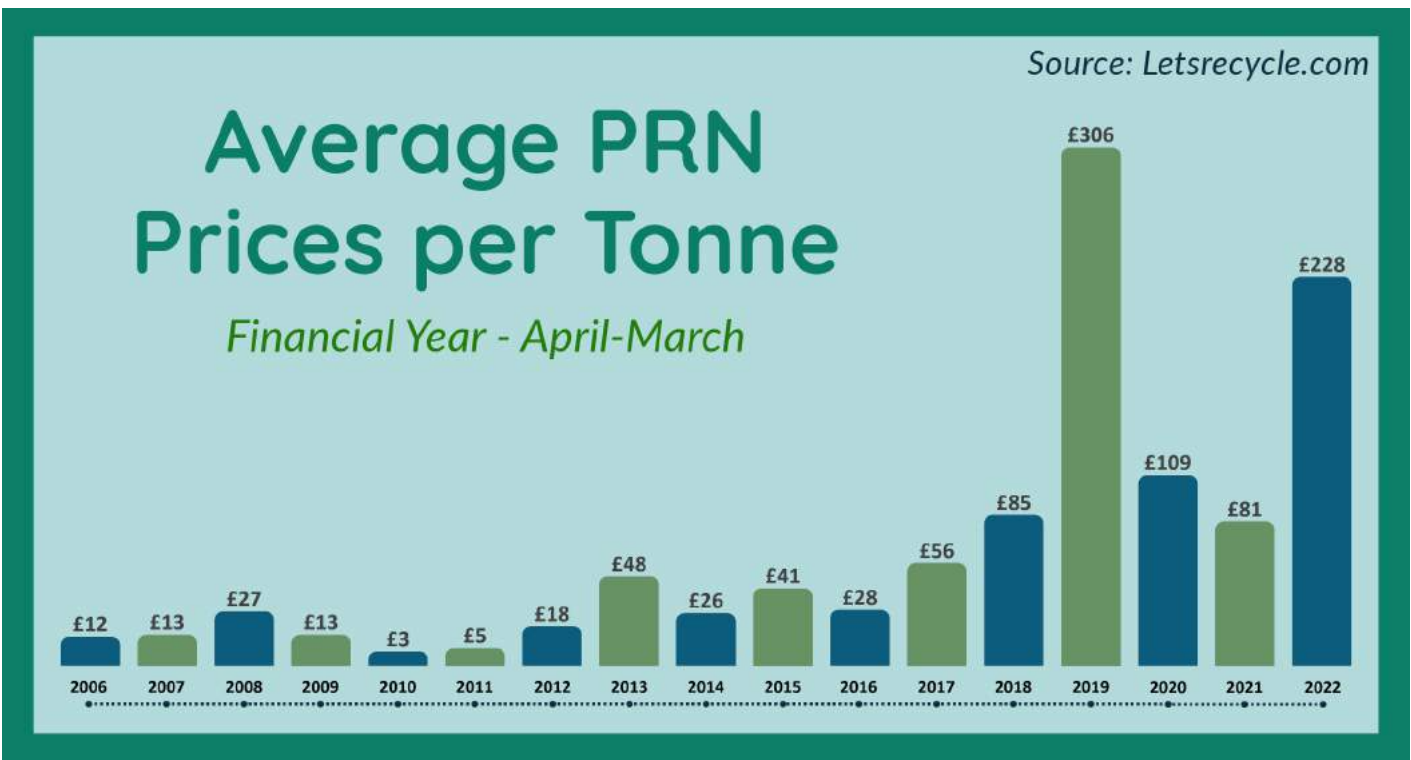
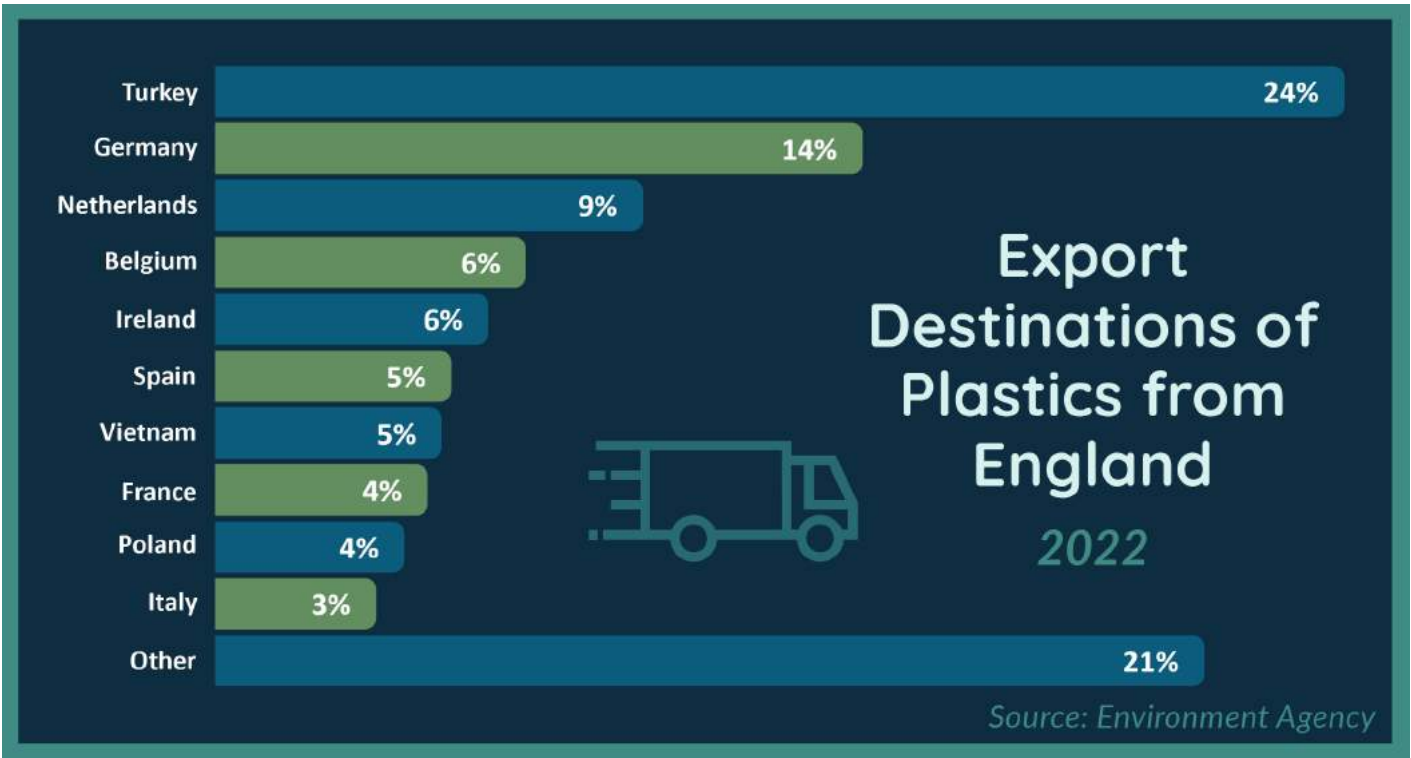
Plastic values also change due to market conditions. The UK has gate fees in place for both landfill and Energy from Waste (EfW), showing the business case to recycle plastics can be viable with the right financial support. In the future, *Extended Producer Responsibility* (EPR)⁸ can play a pivotal role to ensure this.

Export of Material

With **46% (535,000 tonnes)** of UK material exported in 2022, it is important to understand the variety of end destinations. Export of material is often legitimately done to find the most viable recycling avenues, especially when it comes to material types and formats that the UK does not have suitable infrastructure or capacity to handle. It is possible that export markets are exploited purely for commercial gains, particularly in respect of cheap labour in non-OECD countries⁵⁵.

Since the widespread restrictions on exports going to Asian markets a number of years ago, **Turkey** has been the main receiving destination for UK plastic recycling. This remained the same in 2022. Whilst EU Member States make up the majority of the larger export destinations, a number of non-EU and non-OECD countries⁵⁵ have appeared to increase year-on-year.

Over **16%** of the exported plastic for recycling was sent to **non-OECD countries**⁵⁵. These included Vietnam, Malaysia, Kosovo, Taiwan and Indonesia. Data for 2023 so far suggests that this proportion is continuing to grow.



Republic of Ireland Case Study

Each year, the *RECOUP Survey* looks at plastics recycling in the different nations across the UK. For 2023, this has expanded slightly to take a look at the kerbside waste and recycling services for households in the Republic of Ireland (ROI).

Consistency in Collections

Unlike the current system in the UK, ROI has consistent collections across its 31 local authorities⁸⁰, which covers the majority of the country's population of just over 5 million, and each authority covers an area of 500 inhabitants or more.

These consistent collections mean that residents each have access to a **green recycling bin**, a **brown organic and compost bin**, and a **black general waste bin**.

In the recycling bin it is required that all items are presented clean, dry, and loose. Residents can place for recycling their paper and card, metal tins and cans, rigid plastics, and soft plastics (films and flexibles). Rigid plastics include: drinks bottles; cleaning bottles; butter, yoghurt and salad tubs; plastic trays for fruit and vegetables; milk containers; and bottles for liquid soap or shampoo. Soft plastics, or plastic films and flexibles, include: frozen food bags, bread bags, single-use carrier bags, bubble wrap, crisp packets, pasta bags, outer wrapping on kitchen and toilet rolls, and breakfast cereal bags.

Both food and garden waste can be disposed of in the brown bin.

In areas of fewer than 500 residents collections are not necessarily consistent as the brown bin collection service isn't provided. Apartment blocks also see a different collection service, with residents being asked to place their separated waste into larger communal bins. There are some unique cases where residents may not have a wheelie bin for use in waste disposal and in these instances waste companies might sell specific bin bags or tags to place on any bag.

Previously, waste collectors in ROI were private operators and charged a flat rate for the kerbside collection of household waste. This is being phased out to a weight based and/or per lift charge. As the system is not managed through the local authority in the same way as in the UK, and as the waste collection operators are private competitive organisations, citizens are recommended to compare potential service operators and choose one that best suits their needs.

Irish citizens can also make use of Household Waste Recycling Centres (HWRCs) for bulkier household waste items and electricals. Some HWRC sites require an entrance fee, however this isn't consistent nationwide. Alternatively, waste can be disposed of at landfill sites, all of which charge an entry fee and vans are charged at a higher commercial rate.

Deposit Return Scheme (DRS)

In February 2024, ROI is due to introduce a DRS to collect PET drinks containers and aluminium cans, with variable fees of €0.15 to €0.25 dependent on container size²².

Whilst unclear on the full details, Northern Ireland will introduce a DRS from October 2025 along with the rest of the UK¹³. This scheme could potentially have different target materials to that of ROI dependent on the final decision on the inclusion of glass and confirmed container sizes. However, it will certainly differ in terms of currency on the deposit, with the UK DRS likely to be a fixed fee of 20p, though this is yet to be confirmed. How the ROI and NI schemes will work together should hopefully become clearer once the system is introduced in ROI in 2024.

Targets and Recycling Rates

In July 2023, ROI surpassed all EU recycling and recovery targets for the 25th consecutive year, achieving a plastic recycling rate of **32.7%** out of the **318,000 tonnes** Placed on the Market (POM)⁸¹. However, ROI still has some way to go to meet its 2025 (50%) and 2030 (55%) recycling rate targets.

Whilst ROI may not be a bloc leader in terms of recycling rates, the UK and other countries can seemingly learn a lot from its collection model, simplifying the system for citizens in terms of consistency, and hopefully progressing to increased material quantities and quality in the coming years.





Plastic Waste Crime

Waste crime is both a national and global issue, and one that is often reported by the media showing the negative impact of plastics and other materials in the environment. Waste crime can come in many forms, ranging from criminal organisations, rogue traders, and illegal waste sites, down to fly-tipping and littering. Material wrongly declared as recycled when exported (often in developing countries) is also considered waste crime.

The main challenges for local authorities regarding waste crime are litter and fly-tipping. These can take place on small scales, such as domestic litter, or on a commercial scale, through material dumping. Local authorities are largely responsible for the removal of litter and fly-tipping due to the *Duty of Care* legislation⁸² for the safe management of waste, so tackling waste crime is always a priority.

It has been estimated that keeping the country's streets clean of litter costs local authorities over **£500 million** annually, with the cost of fly-tipping nearly **£60 million per year**⁸³. Further to this is the value of the littered material itself which is not being captured for recycling.

30% of local authorities who responded to the 2023 *Survey* stated that they had seen an **increase in litter and fly-tipping** over the last 12 months.

Litter

The *Litter Strategy for England 2017*⁸⁴ report stated that living in a littered environment can have negative consequences on people's mental and physical health, creating further strain on local services. This is otherwise known as litter disamenity. Poor local environmental quality can also discourage inward investment and may suppress property prices, damaging local economic growth. The report estimated that the impact was valued at **£986 million**, and although this was considered by some to be subjective and high, it does indicate the wider impacts of litter, which are both seen and unseen.

Local authority views on litter are largely perceptive and not an exact science. Furthermore, local areas vary significantly, and clean-up of litter and refuse can depend on local authority priorities and geographical characteristics, such as population densities and rurality.

The 2023 *RECOUP Survey* can report that out of those local authorities that shared an opinion, **51%** felt that their area was **predominantly free of litter and refuse apart from small items**, whilst the remaining **49%** felt that their area had a **widespread distribution of litter and/or refuse with minor accumulations** or were **heavily affected by litter and/or refuse with significant accumulations**.

39% of local authorities said the area that causes them the most concern with regards to litter is **highways and public roads**, **25%** stated **retail and commercial areas of town centres** and **21%** **residential areas**. **5%** each said **industrial** and **rural areas**, whilst **4%** felt it was **rivers and riverbanks**.

96% of local authorities who responded said that their area undertakes **litter-picking activities**, **65%** **enforce litter penalties**, and **46%** **conduct communications and education campaigns**.

Fly-tipping

The 2023 *RECOUP Survey* found that **60%** of local authorities consider **fly-tipping a greater problem than litter**, though this was 7% less than in 2022. To address this, **26%** of local authorities reported that they have undertaken specific **communications campaigns aimed at reducing instances of, or assisting the reporting of, fly-tipping** in their areas.

Historically, while exact figures are not possible to ascertain, local authorities have reported that they believe the material is more prevalent from domestic sources, but that commercial and industrial waste is in greater quantities. Commercial waste could be waste that is illegally disposed of by businesses, offices, or small traders placing their waste in sacks without a waste contract and leaving it in streets or parking areas.

The area is
predominantly
free of litter
and refuse
apart from
small items



60%

Fly-tipping
is a greater
problem
than litter





Policy & Regulation

As with last year, policy and legislation has been a key area of discussion across the plastics recycling industry, impacting the whole chain from local authorities all the way to reprocessors. Whilst 2023 may not have delivered the progress anticipated, there have been steps in the right direction.

Various policy measures have been consulted on and discussed at length since the *25-Year Environmental Plan*⁸⁵ in 2018. Whilst few are yet to come into effect, there have been broad developments in each area.

These changes in policy and regulation will have a significant impact on how plastic packaging, waste, and recycling are governed, managed, funded, and delivered, as well as the systems and infrastructure that the various sectors in the material value chains operate within. There is little doubt this process will direct the capability of the UK to manage our waste and recycling systems for the foreseeable future.

Momentum also continues to build around wider UK, European Union (EU), and global strategies to reduce the root causes of climate change and plastic in the environment, moving towards resource-efficient and circular economy systems with significantly more recycling, reuse and refill infrastructure. The various policies are complex in how they interact with each other. RECOUP has carried out extensive dialogue with the UK Government and industry partners and submitted consultation responses for these policies over the last few years.

The 2023 *Survey* asked local authorities for their perspectives on the following legislation:

83% of local authorities that gave a response said they were **supportive or strongly supportive** of the introduction of *Extended Producer Responsibility (EPR)*⁸. The remaining authorities said that they were neutral.

39% of local authorities that gave a response said they were **supportive or strongly supportive** of the introduction of *Deposit Return Schemes (DRS)*^{11 13}. **19%** said they were **against or strongly against**.

78% of local authorities that gave a response said they were **supportive or strongly supportive** of the introduction of *Consistency in Household and Business Recycling in England*¹⁴, since repackaged as *Simpler Recycling*¹⁵. **4%** said that they were **against or strongly against**, and the remaining said that they were neutral.

85% of local authorities that gave a response said they were **supportive or strongly supportive** of *Single-Use Plastic (SUP)*^{4 5 6 86} legislation. The remaining authorities said that they were neutral.

51% of local authorities that gave a response said they were **supportive or strongly supportive** of a *ban on exports to non-OECD (Economic Co-operation and Development) countries*⁸⁷. **4%** said they were **against or strongly against**.

The Environment Bill

In 2021, the *Environment Bill* was passed in parliament making the *Environment Act*⁸⁸ legislation UK law. This allowed ministers to introduce a variety of waste reforms around EPR⁸, DRS^{11 13} and consistent recycling collections in England (now known as *Simpler Recycling*¹⁵). The independent Office for Environmental Protection (OEP)⁸⁹ will enforce the changes and hold public bodies to account, with any changes being driven by new legally binding environmental targets.

Building towards commitments set out in the *25-Year Environment Plan*⁸⁵ for the UK there has been a primary focus on waste reforms, and outcomes from the consultations have now largely been completed, although with further discussions still to take place. These changes should deliver significant policy interventions that will help increase the recyclability of plastic packaging Placed on the Market (POM), and the UK's recycling rates.

HMRC's UK Plastic Packaging Tax

In April 2022, HMRC introduced the *UK Plastic Packaging Tax*¹⁰. This is a tax on plastic packaging manufactured in, or imported into, the UK to be sold on the UK market. The tax applies to predominantly plastic packaging. The cost of tax increased to **£210.82 per tonne** from April 2023, for packaging which is mostly plastic by weight and contains less than **30%** recycled content. From April 2024, this is due to increase to **£217.85 per tonne**.

The UK Government stated that the key aim of the tax was to provide an economic incentive to use recycled material in plastic packaging, generating a greater demand for this material and thus stimulating increased levels of recycling of plastic packaging waste. The European and eventually global transition for the use of tax or financial incentives to use recycled content in plastic packaging will only drive the collective demand and costs to purchase this material higher. It is also safe to assume that tax or legislative interventions to incentivise recycled content will migrate to other packaging materials and non-packaging items over time, other than just single-use plastics.

In its first year, despite limits to the level of enforcement to ensure companies were registered and providing the required evidence, HMRC reported that the tax had generated around **£40 million** more than predicted. This is despite previous reports stating fewer businesses had registered than were estimated. HMRC has repeatedly stated that money raised through the *Plastic Packaging Tax*¹⁰ cannot be ring-fenced and that it must go to UK Treasury centrally to be redistributed, despite requests from the sector.

HMRC has claimed the tax to be a success in driving the use of recycled content in packaging, but questions remain about its impact in real terms. The driver for the tax to incentivise the use of recycled content in packaging has been undermined by low virgin polymer prices in 2023, and by allegations at a parliamentary level that packaging was being imported claiming recycled content at levels that were technically difficult, if not impossible.

In 2023, a consultation took place on *chemical recycling and the adoption of the mass balance approach*⁹. This sought to gather opinions and evidence on allowing a chain of custody model for the reporting of recycled content through a mass balance approach, enabling redistribution of allocated claims based on inputs. The consultation closed on 10 October 2023, and HMRC is expected to release its summary response in the coming months.



Extended Producer Responsibility (EPR)

Packaging EPR is the reforming of the current producer responsibility system. This will shift the burden of managing packaging waste from the authorities and onto the packaging producer. This is to be done through modulation of fees applied to packaging based on many factors, including its recyclability. These categories are currently being reviewed by Department for Environment Food and Rural Affairs (DEFRA) and industry.

EPR will now be implemented in a ‘phased manner’, focusing on payments for household packaging waste and packaging in street bins managed by local authorities. Data collection began at the start of 2023, though delays have meant that the first payments to local authorities from EPR will begin in October 2026, based on 2025 data. Cut-down modulated fees will be used until Q1 2027, and in October 2027 full payments will be based on the final Recyclability Assessment Methodology (RAM). These dates align with plastic films and flexibles being collected for recycling from both households and businesses across the UK by 31 March 2027 as part of the *Simpler Recycling*¹⁵ legislation.

The EPR scheme⁸ will be reviewed after two years of its operation. This review will consider the proposals of the task force on commercial waste and the progress in reducing the quantities of packaging in street bins and littered on the ground.

In 2022, obligated producer costs was estimated to be around **£1.7 billion** each year⁹⁰. This is a significant reduction compared to the **£2.7 billion** that was estimated in 2021⁹¹. The total estimated cost breaks down as follows:

- Over **£800 million** – household packaging recycling costs and Household Waste Recycling Centre (HWRC) costs.
- Over **£300 million** – household packaging residual costs.
- Over **£100 million** – managing packaging in street bins.
- Over **£100 million** – further systems administration costs (including the costs of communications campaigns and regulator costs).
- Over **£300 million** – PRN costs.

The threshold for producer recycling obligations remains at **£2 million** turnover and **50 tonnes** of packaging handled each year. However, a lower threshold of **£1 million** turnover and **25 tonnes** of packaging handled each year will be introduced for producers to report packaging they POM.

EPR⁸ payments will fund local authority collections, and the consistent approach to recycling as set out in the *Simpler Recycling* legislation¹⁵. This includes a standard list of materials collected for recycling, separate food waste collections, and changes to frequency. EPR⁸ will also support the delivery of similar measures in the Devolved Administrations.

The current Packaging Waste Recycling Note (PRN) system is to be retained for the next few years to demonstrate recycling obligations are being met. The government will introduce an interim solution for managing packaging waste arising from businesses based on the current system (PRN / PERN). Payments for commercially collected packaging waste (from businesses and other organisations that pay for the collection of their waste) will be explored. As the PRN system will be retained, the requirement for reprocessors and exporters to be accredited if they wish to issue PRNs or PERNs will continue to apply. The government will proceed with a mandatory requirement for all reprocessors and exporters that handle packaging waste to report data on the quantity and quality of packaging waste. They also need to submit a sampling and inspection plan for approval and report all sampling data.

England and Northern Ireland will not introduce payments for packaging waste that is littered, whilst Scotland and Wales will be forming their proposals to obligate producers for these costs, and these will come forward in due course. DEFRA has begun exploring the data around litter and littering but is doing so through analyses of material disposed of in litter bins, rather than ground litter.

Mandatory labelling of packaging for recyclability with a single labelling format will be introduced with the use of the ‘Recycle Now’ recycle mark and relevant wording (recycle/ do not recycle). This will enable a single, binary approach to recyclability labelling across the UK. The government will publish guidance to help producers understand the requirements. Producers could choose to subscribe to a labelling scheme and use the services provided by that scheme, and it should be noted that there will not be a de-minimis threshold.

A mandatory takeback scheme for the collection and recycling of fibre-based composite cups (e.g. disposable coffee cups) will be introduced. Sellers of these cups that employ 10 or more full-time equivalent (FTE) staff will be required to provide a dedicated bin for the separate collection of cups and report the collection quantities they have POM and what they have collected for recycling. The government will review progress and consider whether it should be extended to all sellers of filled fibre-based composite cups.

All compostable and biodegradable packaging will be required to be given the 'Do Not Recycle' label until there is evidence it can be collected and composted separately, and at scale.

Simpler Recycling (formerly Consistency in Household and Business Recycling in England)

In summer 2021, a consultation took place on *Consistency in Household and Business Recycling in England*¹⁴. This policy aimed to increase the quantity and quality of the packaging collected for recycling by standardising the method and type of material collected at kerbside by local authorities.

In 2023, the outcome of this consultation was released at the same time as the policy was rebranded as *Simpler Recycling*. This will mean that every household and business across England will be obligated to collect the same standard set of materials at the kerbside for recycling. This includes plastics, metals, glass, paper and card, food waste and garden waste (for households only). Further to this, the frequency of collections will also be regulated, with local authorities required to collect residual waste on, at least, a fortnightly basis.

The timeline for its introduction is as follows:

- By 31 March 2025, non-household municipal premises (such as hospitals, schools, and businesses), except micro-firms, will be required to recycle all recyclable waste streams, excluding garden waste and plastic film.
- By 31 March 2026, local authorities will be required to collect all recyclable waste streams, excluding plastic film, from all households in England, including a weekly food collection for every household, unless transitional arrangements are agreed.
- By 31 March 2027, micro-firms (businesses with fewer than 10 FTE employees) will be required to recycle all recyclable waste streams, excluding garden waste. Plastic film collections from all properties will also begin.

Whilst this policy is only due to impact local authorities in England, each Devolved Administration has its own policies and guidance for introducing similar policies going forward. This includes the Scottish Government and the Convention of Scottish Local Authorities (CoSLA)²⁴ which have a *Household Recycling Charter*²⁵, Wales with its overarching waste strategy document, *Towards Zero Waste*, and its established *Collections Blueprint* as part of its *Municipal Sector Plan*²⁶, and Northern Ireland with its waste management strategy, *Delivering Resource Efficiency*²⁷, and new strategy being developed.

Separated waste collections for workplaces in Wales

The Welsh Government is due to introduce its own consistency legislation for businesses from 6 April 2024, with its new *Workplace Recycling Regulations*⁹².

This policy, regulated by Natural Resources Wales (NRW), will require the separation of:

- Food waste (for premises producing more than 5kg per week).
- Paper and card.
- Glass.
- Metals.
- Plastics.
- Cartons.
- Small Waste Electrical and Electronic Equipment (sWEEE).
- Textiles.

Single-Use Plastic (SUP) Legislation

In line with *Article 5* of the *EU Single-Use Plastics Directive (EU) 2019/904*⁹³, there are long-running efforts to reduce marine litter coming from the most common SUP items. This covers a broad range of products, including plastic cotton buds, cutlery, plates, beverage stirrers, straws, balloon sticks, EPS food containers, and EPS cups. Exemptions will be enforced where products are deemed necessary, but any measures taken to restrict certain items should take fully into account the environmental and socio-economic impacts of doing so.

In October 2023, England and Wales introduced SUP bans and restrictions, with Scotland having already introduced its own in 2022. Wales is due to implement a second phase of its legislation, with carrier bags, PS lids, and oxo-degradable products due to be banned by spring 2026. Questions remain over the introduction of the ban in Northern Ireland, which was due to introduce rules relating to the EU's *Single-Use Plastic Directive*⁸⁶, as agreed in the *Northern Ireland Protocol*⁹⁴.

Deposit Return Schemes (DRS)

Legislative plans are in place to introduce a DRS scheme across the UK, something that is seen in many European countries, and globally. Such a scheme aims to apply a deposit to drinks containers (PET bottles and aluminium cans) that are paid for by the consumer at the point of purchase. This deposit can then be reclaimed when returned to a designated return point, such as a reverse vending machine (RVM).

The introduction of a scheme has seen delays over the last few years, complicated by Scotland's plans to introduce its own independent scheme¹¹. Deposits in Scotland are set at 20p per container, with the rest of the UK still to be confirmed. In 2023, following disputes around the inclusion of glass as part of its scheme (something that may differ to the rest of the UK), the UK Government forced changes to Scotland's scheme under the *Internal Markets Act (IMA)*¹². After the scheme administrator (SA) went into administration, Zero Waste Scotland announced that the scheme's go-live date would be

pushed back to **October 2025** “at the earliest”, bringing it in line with the rest of the UK.

DRS for England, Wales and Northern Ireland is due to be introduced in **October 2025**¹³, though details relating to the specifics, including the price of the deposit, are still to be communicated by DEFRA. What has been confirmed is that single-use drink containers holding between 50 ml and 3 litres of liquid will be in scope, and that this will include containers sold both individually and as part of a multipack. This is something that is aligned with the scheme for Scotland.

The use of a Digital DRS (DDRS) is being assessed. A DDRS is where consumers can claim their deposit at home by scanning their drink containers on their smartphones when placing them for recycling. This would be in addition to using RVMs when away from home, as is used in a traditional return to retail DRS scheme.



Ban on Export to Non-OECD Countries

There is a constantly changing dynamic around the export and import of waste, particularly plastics, both in terms of policy and positions that the EU and independent countries are taking. The UK has long relied on export markets, and with typically more than 50% of waste plastic packaging exported each year, the emphasis for the UK and indeed many other countries is to manage more material on their shores. This both reduces the reliance on changing policy and restrictions from other countries that accept this material, and promotes the development of domestic recycling infrastructure to handle waste from where it originated.

In late 2023, a consultation is expected to be launched to look at *banning waste exports to non-OECD countries*⁸⁷. As of 2022, this accounts for around **16%** of all plastic packaging exported from the UK for recycling.

Green Claims

In 2021, the Competition and Markets Authority (CMA)⁹⁵ began to investigate how businesses are making environmental claims to promote or sell their goods and services. This is to understand whether consumers are being misled by the claims given. Guidance was issued in September 2021 which includes six core principles environmental claims must be made around. It also gave examples of when environmental

claims are misleading, what *Consumer Protection Law (CPL)*⁹⁶ requires businesses to do, and if businesses don't comply, what powers the CMA has to tackle practices that hinder consumers' decision-making, including taking businesses to court.

The six main principles set out by the CMA are as follows:

- Claims must be truthful and accurate.
- Claims must be clear and unambiguous.
- Claims must not omit or hide important information.
- Comparisons must be fair and meaningful.
- In making the claim, the full lifecycle of the product or service must be considered.
- Claims must be sustained.

This covers both business-to-consumer claims, as well as business-to-business claims, to ensure that both can make informed purchasing decisions.

RECOUP strongly believes environmental claims should be founded on objective data and evidence to deliver the best environmental outcomes. A level playing field is needed for those businesses making well-founded and evidence-based environmental claims to ensure that claims are not made to gain a commercially competitive advantage, without substantiating evidence. For those that do not comply with the CMA's guidelines, them, and other such bodies like Trading Standards, can bring court proceedings or other legal actions. Business may also face legal actions from consumers who seek redress.

UK Plastic Recycling Targets

DEFRA has published the packaging waste recycling targets for businesses going forward. These are targets placed on the producer value chain from the polymer and packaging producers through to the retailers.

For plastics, in 2022, the target was **61%**. This remains the same for 2023 and 2024.

As part of the reforms, new recycling targets have been set and will reflect future use of a DRS and consistent collections through *Simpler Recycling*¹⁵ legislation.

DEFRA Recycling Targets

	2021	2022	2023	2024
Paper	79%	83%	83%	83%
Glass	81%	82%	82%	82%
Aluminium	66%	69%	69%	69%
Steel	86%	87%	87%	87%
Plastic	59%	61%	61%	61%
Wood	35%	35%	35%	42%
Recycling	76%	77%	77%	80%

European and International Policy

Since leaving the EU, the UK has been able to make its own policy decisions around how it manages waste and recycling. The UK is now treated in the same way as any other Organisation for Economic Co-operation and Development (OECD) country with respect to importing and exporting waste to and from EU member states. This also has a knock-on effect in respect of some policy changes. All policy that is in place in the EU will have a significant influence on the UK due to the large amounts of products, packaging and waste imported and exported to and from the bloc.

Current EU regulation that is particularly relevant includes:

- **Circular Economy Package**⁹⁷: Addressing the high dependency on virgin fossil feedstock, low rate of recycling and reuse of plastics, and the leakage of plastics into the environment.
- **Waste Framework Directive**⁹⁸: The legislative structure for the management of waste in EU countries, which includes setting recycling and reuse targets.
- **Plastic Packaging Waste Regulations (PPWR)**⁹⁹: New legislation and targets around production, recycling and re-use of waste across the EU.
- **Deposit Return Schemes (DRS)**: Multiple EU Member States are introducing DRS schemes to help meet the targets set. The Republic of Ireland is due to launch its own DRS in February 2024²², with a variable fee of 15-25¢ on PET and aluminium drinks containers.
- **Single-Use Plastics Directive**⁸⁶: Aiming to tackle litter coming from identified single-use plastic products and targets to collect drinks containers.
- **European Green Deal**¹⁰⁰: A set of policy initiatives from the European Commission with the overall objective to make Europe carbon neutral by 2050.
- **Plastic Waste Levy**¹⁰¹: An 80¢ per kilogram (£800 per tonne) levy on unrecycled plastic waste as part of the coronavirus recovery fund agreement. Proceeds from the levy go directly to the EU, but it will be down to individual countries to decide how to fulfil the requirement.
- **Recycled Plastic in Food-Contact Materials**¹⁰²: Changes are being made to the requirements for recycled plastic used in food-contact packaging being sold on the EU market. This policy replaces the previous legislation for Member States and in Northern Ireland, whilst the old policy remains in place for England, Wales and Scotland¹⁰³.
- **Waste Shipping Regulations**¹⁰⁴: Amendments to rules around the import and export of waste, including contamination tolerances in 'Green List' waste for EU Member States.
- **Plastic Packaging Tax(es)**: Proposed taxes in Italy¹⁰⁵ and Spain¹⁰⁶ for plastic packaging that does not contain a set level of recycled content. The tax was introduced in Spain on 1 January 2023, whilst Italy's has been subject to multiple postponements and is now planned to be implemented from January 2024.

Basel Convention

Since 1 January 2021, to strengthen controls for the export of waste plastics, new arrangements for the movement of plastic waste were enforced as part of the *Basel Convention*⁷⁹. These were ratified by the UK Government and have been implemented across the EU through the relevant Waste Shipments Regulations, with exporters from the UK to Europe required to follow EU customs guidelines.

These changes mean that only plastics destined for recycling operations, consisting of almost exclusively one type of plastic, and that are almost entirely free from contamination, can continue to be exported as 'Green List' waste. Mixtures of PP, PE and PET can continue to be exported under 'Green List' controls on the condition that they are destined for separate recycling. All other waste plastic international movements require 'Prior Informed Consent' (PIC) from the competent authorities of dispatch, transit, and destination. Additionally, material exported for recycling can no longer be sent to non-OECD countries⁵⁵ for processing, without meeting strict criteria that ensure it arrives at regulated end destinations.





Acronyms & Abbreviations

AD – Anaerobic Digestion	ONS – Office for National Statistics
BPF – British Plastics Federation	OtG – On the Go
CoC – Chain of Custody	PE – Polyethylene
CMA – Competition Markets Authority	PECT – Peterborough Environment City Trust
CoSLA – Convention of Scottish Local Authorities	PERN – Packaging Export Recovery Note
COVID-19 – Coronavirus Disease	PET – Polyethylene Terephthalate
CPL – Consumer Protection Law	PIC – Prior Informed Consent
DAERA – Department of Agriculture, Environment and Rural Affairs of Northern Ireland	PP – Polypropylene
DDRS – Digital Deposit Return Scheme	PPWR – Plastic Packaging Waste Regulations
DEFRA – Department for Environment Food and Rural Affairs	PRF – Plastic Recovery Facility
DIY – Do-It Yourself	PRN – Packaging Recovery Note
DMR – Dry Mixed Recycling	PS – Polystyrene
DRS – Deposit Return Scheme	PTT – Pots, Tubs and Trays
EA – Environment Agency	PVC – Polyvinyl Chloride
EFSA – European Food Safety Authority	RAM – Recyclability Assessment Methodology
EfW – Energy from Waste	RDF – Refuse Derived Fuel
EPR – Extended Producer Responsibility	ROI – Republic of Ireland
EPS – Expanded Polystyrene	RVM – Reverse Vending Machine
EU – European Union	SUP – Single-Use Plastic
FA – Free Allocation	UKRI – UK Research and Innovation
FoS – Front-of-Store	UK – United Kingdom (England, Scotland, Wales and Northern Ireland)
FPF – Flexible Plastic Fund	WDF – WasteDataFlow
FSA – Food Standards Agency	WEEE – Waste Electrical and Electronic Equipment
FTE – Full Time Equivalent	
HDPE – High Density Polyethylene	
HMRC – His Majesty’s Revenue & Customs	
IMA – Internal Markets Act	
kg – kilograms	
kt – Kilotonnes	
LARAC – Local Authority Recycling Advisory Committee	
LDPE – Low Density Polyethylene	
MBT – Mechanical Biological Treatment	
ml – millilitres	
MRF – Material Recovery Facility	
NAWDO – National Association of Waste Disposal Officers	
NIR – Near Infrared	
NPWD – National Packaging Waste Database	
NRW – Natural Resources Wales	
OECD – Organisation for Economic Co-operation and Development	
OEP – Office for Environmental Protection	



References

1. <https://larac.org.uk/>
2. <https://nawdo.org.uk/>
3. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1140054/List_of_councils_in_England_2023.pdf
4. <https://www.gov.uk/guidance/single-use-plastics-ban-plates-bowls-trays-containers-cutlery-and-balloon-sticks>
5. <https://www.gov.wales/environmental-protection-single-use-plastic-products-wales-act>
6. <https://www.zerowastescotland.org.uk/resources/single-use-plastic-products-scotland-regulations-2021>
7. <https://www.gov.uk/government/consultations/draft-producer-responsibility-obligations-packaging-and-packaging-waste-regulations>
8. <https://www.gov.uk/guidance/extended-producer-responsibility-for-packaging-who-is-affected-and-what-to-do>
9. <https://www.gov.uk/government/consultations/plastic-packaging-tax-chemical-recycling-and-adoption-of-a-mass-balance-approach/plastic-packaging-tax-chemical-recycling-and-adoption-of-a-mass-balance-approach#:~:text=A%20mass%20balance%20approach%20is,be%20allocated%20to%20particular%20outputs.>
10. <https://www.gov.uk/government/collections/plastic-packaging-tax>
11. <https://depositereturnscheme.zerowastescotland.org.uk/>
12. <https://www.legislation.gov.uk/ukpga/2020/27/contents/enacted>
13. <https://www.gov.uk/government/consultations/introduction-of-a-deposit-return-scheme-in-england-wales-and-northern-ireland>
14. <https://www.gov.uk/government/consultations/consistency-in-household-and-business-recycling-in-england>
15. <https://www.gov.uk/government/news/simpler-recycling-collections-and-tougher-regulation-to-reform-waste-system>
16. <https://www.valpak.co.uk/knowledge-hub-post/plasticflow-2025-2/>
17. <https://www.valpak.co.uk/knowledge-hub-post/packflow-covid-19-report/>
18. <https://www.ons.gov.uk/census>
19. <https://www.wastedataflow.org/>
20. <https://flexibleplasticfund.org.uk/flexcollect>
21. <https://wrap.org.uk/resources/guide/recycling-your-customers-plastic-bags-and-wrapping>
22. <https://re-turn.ie/>
23. <https://www.legislation.gov.uk/ukpga/2003/29/contents>
24. <https://www.cosla.gov.uk/>
25. <https://www.zerowastescotland.org.uk/resources/charter-household-recycling>
26. <https://www.gov.wales/municipal-sector-plan-part-1-collections-blueprint>
27. <https://www.daera-ni.gov.uk/consultations/Waste-Management-Plan-for-Northern-Ireland>
28. <https://www.recoup.org/wp-content/uploads/2023/09/uk-household-plastic-packaging-collection-survey-2022-full-report-5123-1672931733.pdf>
29. <https://en.powys.gov.uk/article/14514/Brecons-ScanRecycleReward-trial-will-begin-in-July?ccp=true#cookie-consent-prompt>
30. <https://www.recoup.org/research-and-reports/plastics-management-and-recycling-at-household-waste-recycling-centres-in-the-uk-apr-2023/>
31. <https://flexibleplasticfund.org.uk/>
32. <https://www.mars.com/>
33. <https://www.mondelezinternational.com/>
34. <https://www.nestle.com/>
35. <https://www.pepsico.com/>
36. <https://www.unilever.co.uk/>
37. <https://www.abelandcole.co.uk/>
38. <https://www.ellaskitchen.co.uk/>
39. <https://kiddylicious.com/>
40. <https://www.douwe-egberts.co.uk/>
41. <https://www.kpsnacks.com/>
42. <https://www.lotusbakeries.com/>
43. <https://www.mccain.co.uk/>
44. <https://naturalbalance.co.uk/>
45. <https://ocadoretail.com/>
46. <https://www.thecollectivedairy.com/>
47. <https://www.unitedbiscuitsfoods.com/brands/>
48. <https://www.vitaflousa.com/>
49. <https://www.ecosurety.com/>
50. <https://www.discover.ukri.org/smart-sustainable-plastic-packaging/>
51. <https://www.suez.co.uk/en-gb>
52. <https://wrap.org.uk/>
53. <https://www.zerowastescotland.org.uk/>
54. <https://www.recoup.org/research-and-reports/uk-plastic-packaging-sorting-reprocessing-infrastructure-report-2022/>
55. <https://www.oecd.org/>
56. <https://www.food.gov.uk/>
57. <https://www.efsa.europa.eu/en>
58. <https://www.thechemicalengineer.com/news/mura-technology-s-flagship-advanced-plastics-recycling-plant-opens-in-teesside/>
59. <https://www.gov.uk/government/organisations/environment-agency>
60. <https://www.ban.org/news/2023/10/31/plastic-packaging-from-a-uk-supermarket-found-dumped-in-vulnerable-myanmar-communities>
61. <https://www.gov.uk/guidance/importing-and-exporting-waste#exporting-waste-under-green-list-waste-controls>
62. <https://www.ellenmacarthurfoundation.org/reuse-rethinking-packaging>
63. <https://www.tesco.com/groceries/en-GB/zone/loop>
64. <https://moldplasticreduction.org/more-info/naked-takeaway/>
65. <https://bringitback.org.uk/>
66. <https://www.pect.org.uk/>
67. <https://hubbub.org.uk/>
68. <https://www.bringitbackfund.co.uk/>
69. <https://www.sheffield.ac.uk/>
70. <https://kakaducreative.com/>
71. <https://maidstone.gov.uk/home/other-services/campaigns-and-projects/tier-2-primary-areas/kent-understanding-plastics-project>
72. <https://www.durham.gov.uk/>
73. <https://www.biffa.co.uk/>
74. <https://seahamfoodfestival.co.uk/>
75. <https://marmaxproducts.co.uk/>
76. <https://www.bpf.co.uk/>
77. <https://www.durhamrecycles.co.uk/>
78. <https://npwd.environment-agency.gov.uk/Public/PublicSummaryData.aspx>
79. <https://www.basel.int/>
80. <https://www.mywaste.ie/>
81. <https://repak.ie/driving-change/recycling-targets/>
82. <https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice>
83. <https://www.eunomia.co.uk/calculating-the-cost-of-litter-with-new-model/>
84. <https://www.gov.uk/government/publications/litter-strategy-for-england>
85. <https://www.gov.uk/government/publications/25-year-environment-plan>
86. https://environment.ec.europa.eu/topics/plastics/single-use-plastics_en
87. <https://www.mrw.co.uk/news/consultation-on-plastic-waste-export-ban-to-non-oecd-due-this-summer-31-03-2023/>
88. <https://bills.parliament.uk/bills/2593>
89. <https://www.theoep.org.uk/office-environmental-protection>
90. <https://www.circularonline.co.uk/news/brc-estimates-drs-will-cost-uk-retailers-up-to-1-7-billion/>
91. <https://www.foodmanufacture.co.uk/Article/2021/04/08/Alarm-as-packaging-consultation-predicts-2.7bn-EPR-cost>
92. <https://www.gov.wales/workplace-recycling>
93. <https://www.legislation.gov.uk/eudr/2019/904#:~:text=The%20objectives%20of%20this%20Directive,products%20and%20materials%2C%20thus%20also>
94. https://assets.publishing.service.gov.uk/media/5da863ab40f0b659847e0184/Revised_Protocol_to_the_Withdrawal_Agreement.pdf
95. <https://www.gov.uk/government/organisations/competition-and-markets-authority>
96. <https://www.gov.uk/consumer-protection-rights>
97. https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en
98. https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en
99. https://environment.ec.europa.eu/publications/proposal-packaging-and-packaging-waste_en
100. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en
101. <https://products.cooley.com/2023/10/19/plastic-packaging-tax-lifting-the-lid/#:~:text=The%20EU%20plastics%20contribution&text=Instead%20of%20there%20being%20an,produced%20in%20that%20member%20state.>
102. <https://eur-lex.europa.eu/EN/legal-content/summary/recycled-plastic-packaging-in-contact-with-food.html>
103. <https://www.legislation.gov.uk/uksi/2008/916/contents/made>
104. https://environment.ec.europa.eu/topics/waste-and-recycling/waste-shipments_en
105. <https://www.ecosistant.eu/en/plastic-tax-in-italy-2023/>
106. <https://www.ecosistant.eu/en/plastic-tax-in-spain-2023/>

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