UK Household Plastic Packaging Collection Survey

2022

UK HOUSEHOLD PLASTIC PACKAGING COLLECTION SURVEY

2022

RECOUP is a charity and leading authority providing expertise and guidance across the plastics recycling value chain. Built on a network of valued members, collaboration is central to RECOUP's activities. The organisation is committed to securing sustainable, circular, and practical solutions for plastic resources both in the UK and worldwide.

Researched and written by:

Tom McBeth, Policy & Infrastructure Project Manager

Supported by:

Steve Morgan, Head of Policy & Infrastructure
Laura Hutchings, Senior Projects Officer
Josephine Eidem, Senior Projects Officer

RECycling of Used Plastics Limited (RECOUP)
1 Metro Centre, Welbeck Way, Woodston, Peterborough, UK, PE2 7UH
t: +44 (0)1733 390021 e: enquiry@recoup.org w: www.recoup.org
Registered Charity No: 1072029 & Company Registration No: 02435729

CONTENTS

Foreword

The RECOUP UK Household Plastics Collection Survey is a specialist, research-based report for stakeholders and decision-makers in the household plastics value chain. The Survey aims to provide evidence to support the development of sustainable plastic collection and recycling solutions across the UK.

Survey 2022

Each year, all local authorities in the UK, including borough, district, city and county councils, as well as waste partnerships, are surveyed through an online questionnaire about many of the key areas affecting their recycling collections and operations. Collation of this information allows for the *2022 RECOUP Survey* to provide a comprehensive and transparent review of the collection of household plastics for recycling in the UK, as well as the challenges and opportunities facing local authorities and waste management providers.

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 the results.

Global Challenges

Since March 2020, there has been large-scale, global disruption as a result of the Covid-19 pandemic, conflict in Europe and the energy and cost of living crises. These have each caused significant and unavoidable impacts on the plastics supply chain in the UK, both around the economics and logistics. These factors have created uncertainty in processes, increased operational costs, including for imports and exports, as well as shortages in resources, including staffing.

This year's *RECOUP Survey* will explore this in greater detail, as well as the impacts and changes to the volumes of plastic packaging placed on the market and collected for recycling.

Policy & Legislation

Despite the various disruptions and global challenges, the UK and international governments, industry, and the general public have continued to show commitment to environmental targets. Whilst there have been delays to consultations, responses, and implementation of legislation, the overall aims and objectives remain largely the same.

Since 2018, with the *25-Year Environment Plan* [3], and part of the UK's *Resources and Waste Strategy* [4], there has been an effort to transform the future governance, structure, and funding of how the UK manages plastic packaging waste. These legislative changes include the reform of the UK Packaging Producer Responsibility System and use of *Extended Producer Responsibility (EPR)* [5], *Consistency in Household and Business Recycling in England* [6], the introduction of a *Plastic Packaging Tax* [7] to incentivise the use of at least 30% recycled content in plastic packaging, the introduction of *Deposit Return Schemes (DRS)* for drinks containers in England, Wales and Northern Ireland [8], and Scotland separately [9], and restrictions on the use of single-use plastics (SUP) [10].

Northern Ireland has also adopted several EU policies separately from the rest of the UK as a result of the *Northern Ireland Protocol* [11]. This has included the implementation of the EU's *Single-Use Plastic Directive* [12] from January 2022.

As of late 2022, there is also focus on legislation that falls under the *Retained EU Law (Revocation and Reform) Bill* [13], with various environmental policies to be adapted or adopted into UK law by December 2023, or 2026 if a delay is opted for.

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 of 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.

Despite the challenges faced in recent years, the response rate this year was **76%**.

The continued support from across the plastics supply chain helps to make the research that forms the core data both comprehensive and worthwhile.

In recent years, the findings in the *RECOUP Survey* reports have received coverage in Sky News Ocean Rescue, the BBC, national and industry media, research reports, government consultations and in communications from other corporate and non-governmental organisations (NGOs).

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 Plastics Collection Survey* is also supported by the Local Authority Recycling Advisory Committee (LARAC) and the National Association of Waste Disposal Officers (NAWDO).

To find out more about RECOUP membership, visit the RECOUP website.

www.recoup.org

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

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

@Pledge2Recycle on Facebook, Twitter, LinkedIn, TikTok, Instagram, and Spotify. For community & education, cutting the confusion around plastic recycling, work with schools, clubs and community groups to answer plastic recycling questions.

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

Report Summary

UK Household Plastics Collection Data

- In 2021, there were **374** UK local authorities, all of which provide a kerbside household recycling collection service
- **606,000 tonnes** of household plastic packaging were collected for recycling in 2021, an annual increase of around **22kt** or **4%**
- **833,000 tonnes** were not collected for recycling and went to landfill or for energy recovery
- This breaks down as **21.5 kg** of plastics packaging collected per household per year, out of a total **51.5 kg** consumed
- Over **14 billion** plastic bottles are used each year in the UK. That's over **38 million** plastic bottles every day – more than 1.3 bottles per household per day
- The overall collection rate of all consumer plastic packaging in 2021 was **42%**
- The collection rate for all rigid plastic packaging only in 2021 was around **53%**

Plastic Packaging Placed on the Market Figures

- **1,112,000 tonnes** of plastic packaging were declared as recycled from all sectors in 2021, this is a recycling rate of just under **50%**
- It is estimated that, in 2021, **1,439kt** of household plastic packaging was placed on the market in the UK
- Of this, **641kt** was plastic bottles, **457kt** was pots, tubs and trays and other rigid plastics, and **341kt** was plastic films and flexibles

Plastic Bottles

- **100%** of local authorities offered a kerbside recycling collection for plastic bottles in 2021
- **407,000 tonnes** of plastic bottles were collected for recycling in 2021. This is an increase of **17kt** on 2021
- In 2021, **67%** of household plastic packaging collected was plastic bottles
- This breaks down as **14.5 kg** of plastic bottles collected per household out of a total of **23 kg** consumed
- The collection rate for drinks bottles is **76%** for PET drinks bottles and **78%** for natural HDPE drinks bottles
- For non-drinks bottles, the collection rate is **45%**
- The collection rate for all household plastic bottles is **63%**
- Almost **9 billion** plastic bottles were collected for recycling in 2021. That's over **24.5 million** bottles every day
- Over **5 billion** household plastic bottles were not collected for recycling from UK households in 2021. That's over **14 million** plastic bottles every day
- The average UK household uses over **500** plastic bottles a year and recycles **over 300** of them.
- **425 tonnes** of plastic bottles were collected for recycling in 1994. Since then, over **100 billion** plastic bottles have been collected in total. That's **almost 5 million tonnes** of plastic collected for recycling

Plastic Pots, Tubs and Trays

- **328 (88%)** local authorities offered a kerbside recycling collection for plastic pots, tubs, and trays in 2021, a **1%** proportional increase on 2020
- In 2021, **29%** of plastic packaging collected was plastic pots, tubs and trays
- **174,000 tonnes** of plastic pots, tubs and trays were collected for recycling in 2021, **4kt** more than in 2020
- This breaks down as over **6 kg** of plastic pots, tubs and trays collected per household per year, out of a total of **16.5 kg** placed on the market
- This was a **38%** collection rate for plastic pots, tubs, and trays
- Around **10,000 tonnes** of plastic pots, tubs and trays were collected in 2007. This is now almost **200,000 tonnes** annually. Since 2007, almost **1.7 million tonnes** have been collected for recycling in total

Plastic Films and Flexible Packaging

- **44 (13%)** local authorities offered a kerbside recycling collection for plastic film in 2021
- 2021 was the **5th consecutive year of decline** of local authorities offering a kerbside recycling collection for plastic film
- In 2021, **4%** of plastic packaging collected at kerbside was plastic film
- **25,000 tonnes** of plastic film were collected for recycling in 2021, a small increase compared to 2020
- This breaks down as **0.9 kg** of plastic film collected per household (out of an average of over 10.5 kg placed on the market)
- This was a **7%** collection rate for plastic film
- **24%** of the 44 Local Authorities who collect plastic film only accept carrier bags

Collection Methods

- **70%** of local authorities collect recyclables on a fortnightly basis, **20%** weekly, **9%** 3-or-4 weekly, and the remaining **1%** more than once per week
- **75%** of local authorities use wheel bins to collect plastic for recycling at kerbside with **blue** being the most common bin colour
- Other kerbside collection methods include bags and boxes
- **46%** of local authorities collect recyclable materials in co-mingled streams, whilst the other **54%** use some form of source separated collection (e.g. separate glass, paper)
- Provision is in place in some local authorities for the collection of other plastic formats, including plant pots, dark and/or coloured plastics and waste electronics
- **11%** of local authorities communicate that they collect plastic plant pots at the kerbside for recycling
- **3%** of local authorities collect coffee capsules at the kerbside for recycling

Actual Recycling Rates

- Collection data does not reflect actual recycled material quantities with yield losses meaning Material Reclamation Facility (MRF) input quantities are between **15 to 50%** higher than the reprocessing output quantities
- Local authorities reported material reject rates of **up to 35%**, with an average of **13%**

Treatment of Residual Waste

- Residual waste treatment continues to be a key subject in recovering post-consumer plastic packaging, sourcing new sources of material to capture for recycling, and also in reducing gate fee costs for energy recovery and landfill
- The treatment processes reported for general waste were **75%** to energy recovery and **16%** to landfill
- **24%** of local authorities reported that they actively investigate or recover recyclables from their residual waste stream

Waste Crime: Litter and Fly-tipping

- **63%** of local authorities reported fly-tipping to be a greater problem in their area than litter
- **48%** of local authorities who shared an opinion felt that their area was 'predominantly free of litter and refuse apart from small items'
- **50%** of local authorities reported an increase in litter and/or fly-tipping in 2021
- **86%** of local authorities are undertaking litter-picking activities, **67%** enforce litter penalties, and **56%** conduct communication and education campaigns
- **62%** of local authorities see tackling litter and fly-tipping as a high or very high priority in their area

Export of Plastic Packaging for Recycling

- **Turkey** remained the main destination for UK exports in 2021, though less material was sent than in 2020
- **53% (593,000 tonnes)** of the UK plastic packaging declared as recycled was done so in the UK, with **47% (519,000 tonnes)** exported. This is an annual shift of **12%** towards domestic recycling instead of export, and the first time that more UK material was recycled domestically than exported
- It remains a challenge to audit material market flows
- Precise information and transparency about end destinations of exported materials should be high on the agenda for the UK, as it shapes its strategy for the future

Recycled Plastic Markets

- In 2021, Packaging Recovery Note (PRN_ prices averaged around **£81** per tonne and ranged from around **£50 to £120**
- These extremes highlight the complex and potentially volatile nature of export markets and how any reform to the packaging producer responsibility system needs to control and stabilise any future version of PRNs
- In 2021, **£140m** was generated from PRNs and Packaging Export Recovery Notes (PERN), **£65m** of this from plastics

Communications

- **68%** of local authorities reported they had undertaken a waste and recycling communication campaign to residents in the last 12 months, and a further **21%** in the two years prior
- Of these, the main focus for communications to residents was reducing contamination (**35%**) followed by the introduction of a new service (**16%**)
- **36%** of local authorities asked residents to keep lids on plastic bottles when disposing of them, whilst **12%** asked residents to remove lids
- **84%** of local authorities asked residents to empty, rinse or wash plastic packaging before disposal
- **51%** of local authorities asked residents to flatten and squash bottles before disposal
- **20%** of local authorities asked residents to remove plastic film, and **10%** asked for paper or card to be separated
- **9%** of local authorities used polymer codes to communicate to residents what plastics can and cannot be recycled at kerbside

Pledge2Recycle Plastics

- *Pledge2Recycle Plastics* is RECOUP's citizen behaviour initiative, working to reduce consumer confusion around plastic recycling
- A resource pack is available to all local authorities, businesses and educational establishments with content to help citizens be more confident when recycling. This, and other resources, can be downloaded for **FREE** from the *Pledge2Recycle Plastics* website
- In 2021, *Pledge2Recycle Plastics* launched the *Kent UP* project, funded by UK Research & Innovation's Smart Sustainable Plastic Packaging Fund. This was an industry-led communications and behaviour change research project to understand the connection between communications and plastics recycling. *Kent UP* connected over **673,000 households** across Kent over 12 months, gaining citizen insights, delivering plastics recycling messages and evaluating the resulting tonnage and contamination data
- As an outcome from this project, *Pledge2Recycle Plastics* released its *Best Practice Guide for UK Plastics Recycling Communications*, available to download from the RECOUP website
- If you are planning a plastics communication campaign, please contact the *Pledge2Recycle Plastics* team via: **www.pledge2recycle.co.uk**

Policy & Legislation

- The policy and regulation of the UK’s waste and recycling, particularly around plastic packaging, continued to develop in 2022 ahead of major changes in the coming years
- **85%** of local authority respondents said they were supportive or strongly supportive of the introduction of *Extended Producer Responsibility (EPR)*. The remaining authorities said they were neutral
- **49%** of local authority respondents said they were supportive or strongly supportive of the introduction of *Deposit Return Schemes (DRS)*. **15%** said that they were not or strongly not supportive, and the remaining said they were neutral.
- **71%** of local authority respondents said they were supportive or strongly supportive of the introduction of *Consistency in Household and Business Recycling in England*. **3%** said that they were not or strongly not supportive, and the remaining said they were neutral
- **81%** of local authority respondents said they were supportive or strongly supportive of Single-Use Plastic legislation. **1%** said that they were not or strongly not supportive, and the remaining said they were neutral
- HMRC's *UK Plastic Packaging Tax* was implemented in April 2022. This will require predominantly plastic packaging to contain **30% recycled content** or pay a **£200 per tonne** tax
- Reform of the UK Packaging Producer Responsibility System, otherwise known as EPR, is due to take place in the coming years. This will fund the full net cost of managing the collection, transport, sorting, reprocessing and disposal of used packaging
- In the summer of 2021, responses to Defra's *Consistency in Household and Business Recycling in England* consultation were submitted. This policy aims to set a consistent set of materials recyclable across England, including plastic films and flexibles
- The Welsh Government has opened its own consultation on the *Separate collection of waste materials for recycling: a code of practice for Wales*, with a response deadline on February 2023
- Consultations have taken place around the implementation of a DRS in England, Wales, and Northern Ireland
- Scotland plans to implement an independent DRS from August 2023, and the Republic of Ireland in February 2024
- Scottish and Welsh governments have issued consultations around single-use plastics, in line with Article 5 of the European Union (EU) *Single-Use Plastics Directive 2019/904*
- England, Wales, and Northern Ireland have held consultations on restrictions and bans around the use of single-use plastics
- Scotland introduced its own independent single-use plastic ban in August 2022
- Northern Ireland adopted the EU *Single-Use Plastics Directive* in January 2022 as per the *Northern Ireland Protocol*
- The *Retained EU Law Bill* is being discussed to determine which legislation will be amended or adopted into UK law following the UK leaving the EU. This will take place by December 2023 unless the decision is made to delay this until 2026
- The *European Green Deal* is a set of policy initiatives from the European Commission (EC) with the overall objective to make Europe carbon neutral by 2050 whilst also being competitive economically and improving people’s quality of life
- In January 2021, a *Plastic Waste Levy* on EU member states for plastic packaging that goes unrecycled was brought in at **€0.80 per kg**. The estimated €6-8 billion raised through this levy will go to the European Commission as part of the *Coronavirus Recovery Fund*
- On 1 January 2021, amendments to the *Basel Convention* came into force, determining what is to be defined as 'green list' waste, what can be exported for recycling, and to where
- The European Commission has issued consultations and updated on a number of areas relating to packaging waste, including the use of recycled content in food contact packaging, and revisions to the *Plastic Packaging Waste Regulation (PPWR)*
- Both Italy and Spain have discussed the implementation of their own plastic packaging taxes to increase the use of recycled content

RECOUP – Opinion

The RECOUP Survey focuses on the collection of plastic, and it's going to be interesting to see how collection continues to evolve over the coming years and if the UK can untap the potential that is clearly there. I thought it would be useful to use this opportunity to briefly explore some of these areas.

Firstly, 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 *RECOUP Survey*. The **76%** response rate was truly exceptional. With the continued importance and focus on addressing the challenges of plastic waste, these responses are increasingly valuable.

Extended Producer Responsibility – Finally?

Looking at areas of potential, where else can we start apart from *Extended Producer Responsibility (EPR)* [5] for packaging. Saying these words makes many sigh, after seeing delays as a result of the various government transitions and the primary focus being on the financial challenges that underpin the whole economy. However, there now seems to be a flurry of activity.

A draft Statutory Instrument (SI) for England was laid in Parliament on 22 November 2022, and Scotland, Wales and Northern Ireland will soon be laying mirroring SIs in their own nations.

As of 1st January 2023, UK organisations that handle and supply packaging to businesses and consumers should be collecting and reporting data on the packaging they place on the market, with this data needing to be reported from July 2023.

This data will be used to calculate the fees producers will be required to cover the cost of managing their packaging after it is used, with this funding mechanism due to start in 2024. This will also be joined by the use of eco-modulation – to set the fee paid by the manufacturer of the packaging based on its recyclability. Defra is providing support and guidance through a series of webinars and has collated some of the most frequently asked questions.

RECOUP's approach on this is to ensure a well-designed system is in place to deliver optimal environmental outcomes. So, although policy cannot be rushed, we also need to see a well-informed and planned timeframe for change that will be kept to.

Invest in Recycling Infrastructure

EPR fees have a lot to deliver, and it will not be enough to transform the plastic packaging reprocessing infrastructure. That needs to be financed through funds from the continuation of the Packaging Recovery Note (PRN) scheme, which will simply not meet these needs on its own.

In November, House of Commons Environment, Food and Rural Affairs (EFRA) Committee report, *The Price of Plastic – Ending the Toll of Plastic Waste* [14] , recommended that the government ban the export of plastic waste by the end of 2027, and to achieve this, it called on the government to:

- Reinvest income raised from EPR fees and the Plastic Packaging Tax into recycling infrastructure and promising areas of future research.

- Create 'investment ready conditions' to unlock between £500 million and £1 billion of private investment, and potentially up to £10 billion, ready to be invested in plastic reprocessing infrastructure in the UK.

The challenge is around 'investment ready conditions'. These are large numbers that would transform the UK plastic packaging reprocessing infrastructure.

Reassurance about the delivery and timescales of intended policy to those ready to invest in all areas of the waste and recycling infrastructure is part of creating the 'investment ready conditions', and reinvesting revenues raised from the tax would be seen as a significant sign of a commitment from the government to achieve its aims.

The *UK Plastic Packaging Tax* [7] has been labelled an 'environmental tax', but an estimated £700 million will go to the Treasury by 2025. To follow up on the EFRA Committee's recommendations, could recycled content still be built into the plastic packaging EPR eco-modulation framework to ensure the money goes back into building the world leading system that the UK Government states it wants.

Plastic Films and Flexibles

Despite movements on EPR, no more information has been communicated about consistent recycling collections in England, or use of a *Deposit Return Scheme (DRS) in England, Wales or Northern Ireland* [8] , which would significantly change the composition of kerbside collected plastics. Although, Wales has opened its own consultation on a code of practice for the separate collection of waste materials for recycling [15] . Both these policies would clearly change the plastics collected from households and businesses. However, it is actually the EPR policy that mandates the collection of plastic films and flexibles from households and businesses from 2027 [5] .

To prepare for this, RECOUP is a partner in the *FlexCollect* project [16] , the most extensive pilot for household collection and recycling of household flexible plastic packaging in the UK. This project will help to understand how to incorporate these items into existing collection services and develop best practice ahead of 2027. This is a massive challenge. One of RECOUP's roles is delivering the composition analysis on the collected material so an objective assessment can be made to not only how effective the scheme is, but provide valuable data to the end markets about the feedstock they will be processing. On that note, RECOUP's other role is an interesting one, which is to research and line up the end markets. This covers every recycling process after the Material Reclamation Facility (MRF), both sorting films into separate streams and the various and intricate recycling reprocessing to produce recycled raw materials to use in new products. Although the recycling infrastructure for household films is in its infancy in the UK, there are some exciting developments happening which gives confidence for the future.

Impacts of the Proposed EU Packaging and Packaging Waste Directive

Despite no longer being in the European Union (EU), the new *EU Packaging and Packaging Waste Regulations (PPWR)* [17] is something the UK will need to keep a very close eye on. To reflect the international markets for food and packaging, the UK might need to adopt this new legislative proposal, which includes targets to completely transform the use of reuse and refill schemes. A cultural shift is needed to make this a reality, and Household Waste Recycling Centres (HWRCs) may take a prominent role in ensuring post-use items are returned for reuse, or even recycled themselves.

From the developments in EPR, DRS, consistent recycling collections and PPWR, to the use of the various funding streams and unlocking private investment, can we untap that potential? Whatever the outcomes, RECOUP will continue to monitor the impacts through its annual *Survey*.

There's certainly never a dull moment!

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 a membership organisation which represents the whole of the plastics value chain. Members 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 of packaging.

RECOUP's vision is to lead and inform the continued development of plastics recycling that is sustainable, protects resources and helps the sector to achieve circularity and carbon reduction goals. In recent years, this scope has increased to also consider other disposal methods including reduction, recovery, and reuse of 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 provides 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, we can influence policy, strategic development, and change. RECOUP would like to acknowledge the support from all its valued members which has allowed the completion of this year's *RECOUP UK Household Plastic Packaging Collection Survey*.

Members of RECOUP have access to a wealth of technical information on plastics, enabling a greater understanding of the complex issues at each point of the value chain, thus assisting in future-proofing provisions. The practical business case for maintaining and increasing plastics recycling must be robust and effective.

- **Policy, legislation and understanding supply chains**

The last few years have seen significant discussion and development of environmental policy in the UK, and internationally. RECOUP works with its members to produce educated and constructive feedback and responses to government consultations, as well as working with industry partners to challenge and help build effective policies to benefit plastic recycling in the UK. A further area of important research is understanding supply chains and particularly helping to unlock end markets for materials, ensuring complete recycling solutions are available for all plastic packaging. This ties in with ensuring the plastic recycling chain focuses on both quantity and quality of captured, sorted, and reprocessed material to ensure confidence and value in the recyclate and recycling industry.

- **Packaging recyclability testing**

RECOUP provides technical support to our members, together with producing design for recyclability guidance and case studies for a wider audience. RECOUP also works towards assessing packaging, ensuring compatibility with the collection, sorting and recycling infrastructure. This is done through live tests, certification, and verification of recyclability of plastic packaging through work alongside *On-Pack Recycling Label (OPRL)* [18] and as the UK auditor for the *RecyClass* [19] certification scheme.

- **Communicating the message**

RECOUP's citizen-facing brand *Pledge2Recycle Plastics* [20] aims to cut citizen confusion on what and how to recycle plastic packaging at the kerbside. This is done through providing resources and actively engaging with the public to help educate, inspire and encourage positive behaviour change.

- **Circularity and sustainability**

While plastics recycling is a vital component of a circular economy there is also the need to consider other factors, particularly the efficient use of resources. RECOUP is researching and providing support to the industry on topics such as reuse and refill, life cycle assessment and bioplastics to contribute to the understanding of these important themes and their impact on the transition towards a circular economy.

- **Bespoke research and innovation projects**

RECOUP's focus on the supply chain includes the challenges and opportunities around all plastic recycling, including hard-to-recycle plastics. This includes plastics in medical applications, small items and agricultural plastics, among others which are largely unrecycled in the current UK infrastructure. Bespoke projects have also included work around trials of Deposit Return Schemes (DRS), front-of-store collections of plastic films and flexibles and their potential end markets, and the use of compostable packaging [21] .

The Circular Economy

In recent years, there has been a growing demand for change from all areas of the plastic industry, media, government and the general public. Whilst plastics should not be allowed to leak into the environment, neither should reducing the use of plastics be seen as an absolute solution. Plastic allows for packaging to be light, durable and has qualities that enable greater carbon reductions, particularly when increasing the shelf life of perishable food and reducing food waste.

It will be beneficial to restrict and reduce the use of plastics in applications which are genuinely unnecessary and represent significant environmental impact. With growing solutions including compostable plastics and reuse and refill options, it is important to consider the overall environmental impact.

The potential for real growth, innovation, and evolution across all parts of the plastic resources and recycling chain remains. There is a genuine confidence that we as a sector are collectively stepping up to the challenge of a plastic circular economy.

The Environment Amid the Global 'Permacrisis'

The last few years have seen disruption on a scale not experienced by the plastic packaging industry before. This has included the Covid-19 pandemic which saw widespread changes to working practices and material demand, the UK's exit from the European Union impacting the import and export of products and materials, as well as adoption and adaptation of legislation, multiple changes and disruption in UK politics, the war in Europe and the global energy crisis which has seen operating costs increase to unprecedented levels, as well as other isolated and associated incidents of heavy goods vehicle (HGV) driver and fuel shortages, affecting costs and operations, and widely varying Packaging Recovery Note (PRN) and plastic prices.

Amongst these disruptions, Glasgow hosted the COP26 [22] Climate Change Conference in late 2021, and COP27 [23] was held in Egypt in 2022, which highlighted the need for focus on environmental matters on a global scale. Furthermore, the UK government has continued its consultations and implementation of policies, all-be-it with some delays, for the likes of the *Plastic Packaging Tax* [7], *Extended Producer Responsibility (EPR)* [5], *Consistent Collections in England* [6], the ban and restrictions on *Single-Use Plastic* [10] and introducing *DRS* [8, 9]. As of late 2022, there is also a renewed focus on the *Retained EU Law Bill* [13], which will see numerous policies previously covered by EU law being adopted, adapted or removed from UK law by December 2023, or 2026 if delayed.

Amidst all the uncertainty and upcoming changes, the UK still has the opportunity to be a world leader in plastic resource management and recycling. With the required levels of ambition and proactivity from the UK government and industry, as well as a holistic and considered approach to the implementation of all policies, this ambition can still become a reality.

Methodology & Reporting

Each year's Survey analyses data collected from all UK local authorities. This is important to help understand the volumes, challenges and opportunities that are associated with household plastic recycling, as well as to compare and identify trends year-on-year.

To help understand the landscape for household plastics recycling, several different figures and sources are required. This includes how much packaging there 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

From May 2022, RECOUP shared a questionnaire with all UK local authorities, the **374** district councils, 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, and questions around challenges, opportunities, and opinions of upcoming policy changes, and how these are likely to affect local authorities.

The response rate of collection authorities responding to the *RECOUP Survey* in 2022 was **76%**.

Service Provision

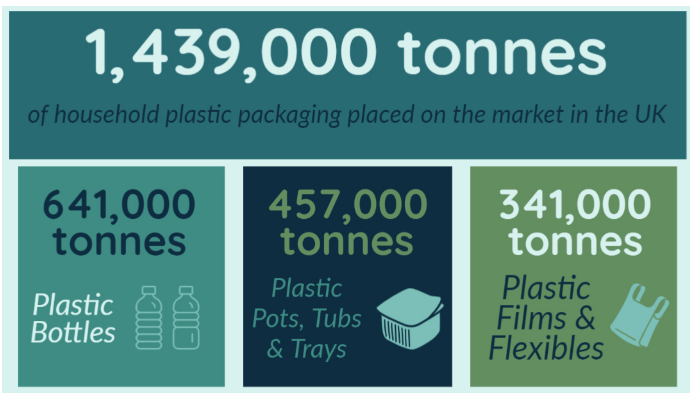
A local authority's service provision is defined by whether they communicate to their residents that they collect certain plastic formats or products as target items at kerbside. Some plastic formats and products can be accepted by the waste management provider sorting facility but are not communicated 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 they are not communicating them as a target item to residents.

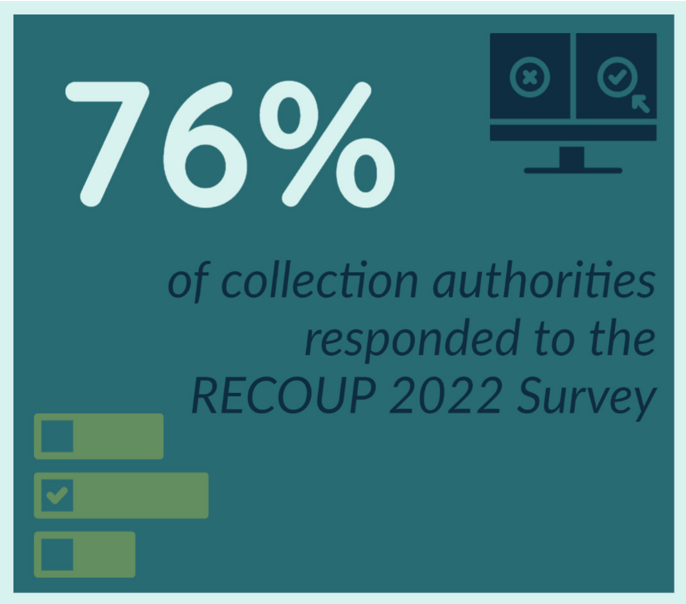
Research is undertaken to understand the messaging from local authorities to their households, including what items can be recycled and what individuals should do with the packaging before disposal (replace or remove bottle lids, wash, or rinse trays, etc.). In 2022, this has been expanded to include bespoke items including medical blister packs, drinks cartons, and plastic plant pots, among others.

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. targeting carrier bags but not cling film). In these cases, further research and investigations are carried out to clarify results.

Plastic Packaging Placed on the Market

The quantity of plastic packaging that is placed on the market (POM) is important for measuring the UK's collection rates. RECOUP always uses the most robust data available which has been Valpak's *PlasticFlow 2025* [24] for several years, as well as its subsequent *COVID-19 Impact Reports* [25] which reflect the supply and demand changes to the plastic packaging market as a result of the Covid-19 pandemic. For the *2022 Survey*, RECOUP has applied proportionate annual changes for the POM figures used in this report to reflect the changes in plastic packaging volumes POM for the year.





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 types and quantity of other materials 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 a number of reasons such as differences between reporting times, contractual arrangements, and the co-mingling or source separation of different materials. Due to these variables, collection quantities cannot be calculated by adding up 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 only partial data, or no collection data is reported, the estimated dataset is completed based on the service provision and then by applying reasonable 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). For 2022, these figures have been revised to account for the increase in household numbers in England and Wales as reported by the Office of National Statistics (ONS) results from the 2021 Census [26] .

As local authorities 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 Reclamation Facility (MRF). Some facilities only segregate certain plastic bottles, like clear PET and natural HDPE bottles, and leave others in with the plastic pot, tub and tray (PTT) or 'mixed plastics' fraction. These then go for further sorting or export. Other facilities 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 for 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 specific percentage composition recommended to be used by WasteDataFlow (WDF) [63]. 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 from kerbside and bring collections, recycling 'On-the-Go' schemes and Household Waste Recycling Centres (HWRC). In some cases, data and responsibility for these are 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 provision that is in place. For example, the volumes of plastic film 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, carrier bags, etc.). This has been considered in data estimations within the *Survey*.

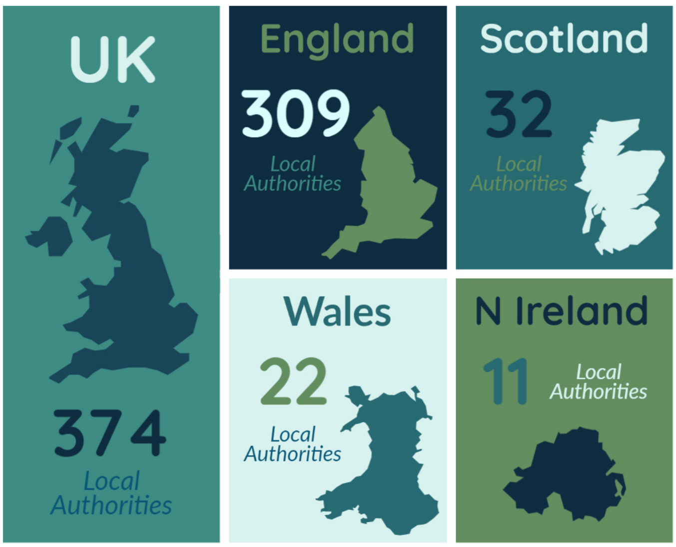
Plastics Collection Services

As the first point of the recycling journey for post-consumer plastics, collection is the foundation of recycling and is vital in ensuring that material is captured within circular economy models and is not littered. The RECOUP Survey provides a comprehensive review of local authorities' service provisions to collect household plastics from kerbside and bring schemes, including recycling 'away from home' and Household Waste Recycling Centres (HWRC).

As required by the *Household Waste Recycling Act 2003* [27], all local authorities in the UK provide at least two types of kerbside collection. This prevalence and maturity of kerbside collections means that there are limited changes to the number of new services being introduced in the UK, however, changes and implementation of various policies and legislation are set to change this in the coming years.

These policy changes include the introduction of *Deposit Return Schemes (DRS)* [8, 9] , *Consistency in Household and Business Recycling in England* [6] and *Extended Producer Responsibility (EPR)* [5] and are likely to have a significant impact on the composition of material within the kerbside waste stream, as well as how local authorities are funded with regards to waste management, collection, and communications to residents.

As well as England's proposed Consistency in Household and Business Recycling legislation, each of the devolved administrations has its own guidance concerning kerbside recycling schemes. The Scottish Government and the Convention of Scottish Local Authorities (CoSLA) has a *Household Recycling Charter* [28] , the Welsh Government has its established *Collections Blueprint* [29] , and the Department for Agriculture, Environment and Rural Affairs (DAERA) has its *Waste Management Plan* [30] for Northern Ireland.



As of April 2022, there were **374** local authorities in the UK:

- **309** in England
- **32** in Scotland
- **22** in Wales
- **11** in Northern Ireland

The total number of local authorities has reduced from 379 in the *2021 RECOUP Survey* [31] due to instances of local authorities merging in England. This is a trend that has been seen in recent years as part of cost-saving measures and 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 **374** UK local authorities collect plastic bottles as part of their kerbside recycling service.

- **Plastic Pots, Tubs & Trays (PTT)**

88% of UK local authorities accept PTT as part of their kerbside collection schemes. This is up from 87% recorded in the *2021 RECOUP Survey* [31] and marks the twelfth consecutive annual increase. This can be attributed to both strategic and consumer pressure to drive towards consistent material collections.

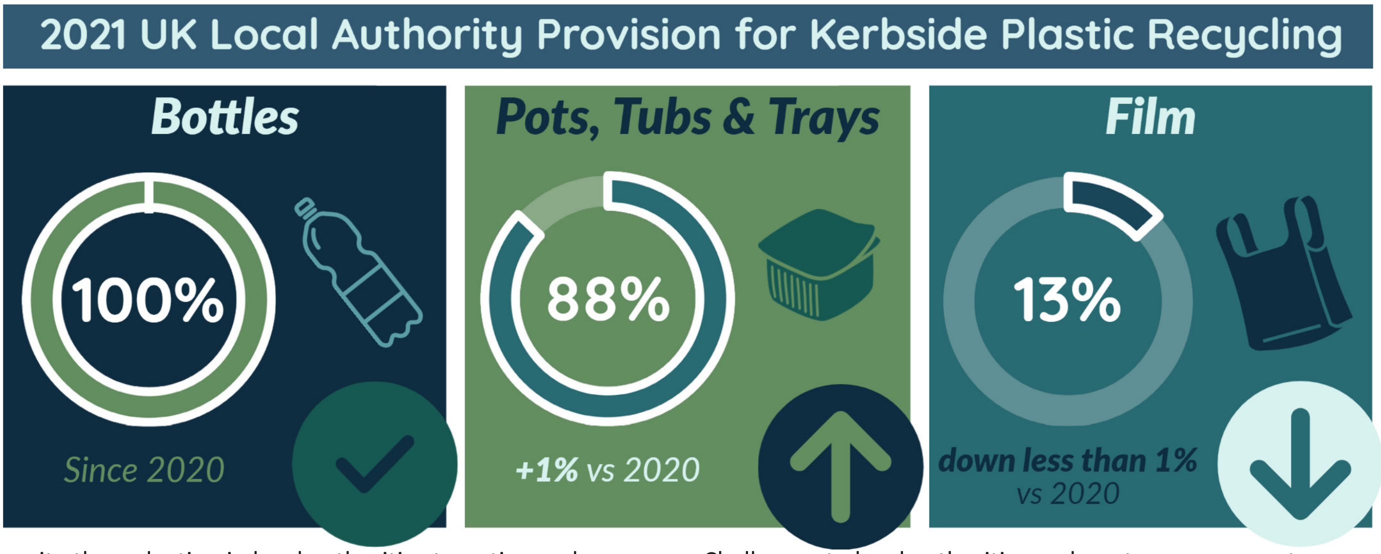
Generally, PP is the only polymer that has economically viable and sustainable end markets in the PTT stream. As with all recycling schemes, gaining the critical mass of material is essential to incentivise the investment in developing further recycling solutions and end markets, and this is particularly true for this material stream.

- **Plastic Films and Flexibles**

The number of local authorities collecting plastic films and flexibles as part of their kerbside collection service has once again declined, with five fewer than in the previous year. This is a kerbside provision of **13%**.

RECOUP found significant variations around local authority collections of plastic film, and the associated messages. 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, **24%** 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 accept bubble wrap or cling film.

Another variable is with local authorities that collect dry recyclables in plastic bags at kerbside. This does not necessarily mean the bags themselves are recycled, or that the local authority accepts or targets other types of plastic film.



Despite the reduction in local authorities targeting and collecting plastic film as a recyclable material, plans as part of the *Consistency in Household and Business Recycling in England* legislation [6] proposes that plastic film and PTT are included as a target material to be collected alongside other recyclables by 2025-26. Whilst this encourages the collection of a large stream of material, the challenges to local authorities and waste management companies must still be addressed. These include:

- Communication with residents to ensure that correct types of plastic packaging are disposed of, and that it is presented correctly and free from contamination. As such, householders need clear and concise guidance.

- Practical barriers preventing plastic film from being compatible with many existing UK collection and Material Reclamation Facility (MRF) systems, including the risk of contaminating established plastic bottle bales and paper lines, and the potential to clog sorting equipment.

- Availability of economically viable and sustainable end markets for the material. 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 could include small Waste Electrical and Electronic Equipment (WEEE). Other small plastic items such as toys may also be collected. These items are most commonly targeted at Household Waste Recycling Centres (HWRC), though some local authorities collect them from kerbside separately to other recycling, often in clear plastic carrier bags.

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%**, and coat hangers which are collected by **1%**.

Plant pots are mainly manufactured from polypropylene (PP), and if this fits in with the feedstock requirements of the MRF and reprocessor, they can be added to existing PTT collections. Challenges to local authorities and waste management providers if plant pots are included in kerbside collections are around 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.

Due to the variations in the wide scale of products that are categorised under 'non-packaging plastics', including WEEE and how 'bulky collection services' are provided, further research is required to acquire a robust total for how many local authorities collect which item types.

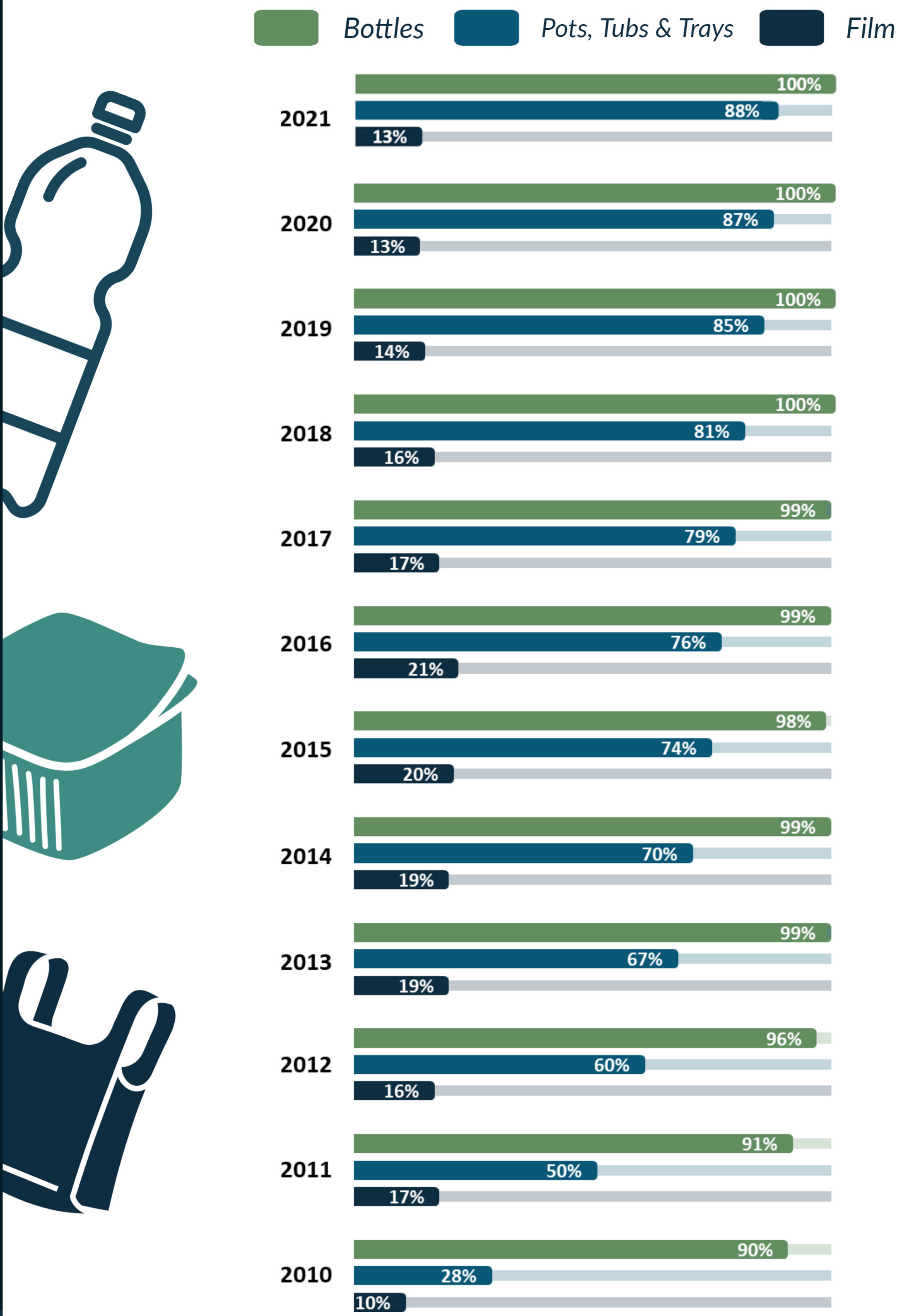
Considerations

Collection provision across the nations in the UK can vary due to various 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.

Updated figures from the Office of National Statistics (ONS) and the *2021 Census* [26] relating to the number of households in England and Wales have increased the UK's total household number to just over 28 million. However, the exact number of households that receive a service in a certain area can vary substantially. Whilst a local authority may promote a collection service in a certain area, it does not necessarily mean that all households in that area are included. This may be reasons that complete coverage is not possible, for example, due to the type of property (flats, apartments), the location of the property (rural, inaccessible locations), or collection schemes that are in a trial period and are gradually being rolled out over a wider area.

Service Provision History

History of Local Authority service provision for kerbside recycling of plastics



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:

- 'On-the-Go' Recycling
- Bring Schemes
- Retailer Front-of-Store Collections
- Deposit Return Schemes (DRS)
- Household Waste Recycling Centres (HWRCs)

Recycling 'On-the-Go'

Recycling 'On-the-Go' schemes involve the placement of units in public places for the collection of used packaging. These are often twinned with general waste bins.

In the *2020 Survey* [31] , **50%** of Local Authorities stated that they provided 'On-the-Go' recycling bins. However, due to the impact of Covid-19, there is reason to believe that the provision and use of these units have been heavily impacted with fewer people consuming goods away from home, and a lack of resources to collect these bins separately.

Under normal circumstances, a well-designed and maintained recycling 'On-the-Go' scheme can potentially generate good quality material and reduce litter. There are clear benefits for encouraging and reinforcing positive recycling behaviours, both 'On-the-Go' and by consumers taking and applying those positive behaviours at home. However, high levels of contamination are consistently an issue. To help tackle this, clear and concise bin signage and language should be used, along with communications to residents and visitors through all available routes. Regular collection is also important to avoid overfull bins. The messages and approaches may differ but engaging the public to have pride in their local community and using emotive anti-litter messages can help to provide an effective service.

Bring and Front-of-Store 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 commonly collected for recycling at kerbside including plastic films and flexibles.

These schemes include traditional bring-back styles such as bottle banks and other receptacles in public places, as well as the increasingly common retailer front-of-store collections. Front-of-store collections have been introduced across the UK by the 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 for this material. Whilst these have helped to increase the capture rate for plastic films and flexible packaging, challenges remain in respect of further infrastructure to reprocess this material, its value and available end markets.

Deposit Return Schemes

There continued to be strong momentum for DRS to be used across the UK to collect a variety of drinks containers. Trials of reverse vending machines (RVMs) have and continue to take place, including some retailers using them in their stores [32] .

Scotland intends to implement a DRS independent of the rest of the UK from August 2023 [9] , following delays as a result of the Covid-19 pandemic. England, Wales and Northern Ireland are in the consultation process for introducing a DRS scheme in the rest of the UK [8] .

As well as traditional RVM-led DRS, a Digital Deposit Return Scheme (DDRS) has been discussed as a way of utilising existing collection schemes. DDRS would mean that citizens could 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 [33] .

Household Waste Recycling Centres

HWRCs are 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 authorities .

To look at the material stream at HWRCs in more detail, RECOUP will be releasing an update of its *Plastic Management and Recycling at HWRCs* report [31] in 2023.

Inconsistency in Collections

The *2022 RECOUP Survey* looked at a number of variables that highlight the differences in local authority approaches. These include:

- **Kerbside collection container types**

There are 3 main types of kerbside collection containers used for dry recyclables in the UK: wheel 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 a wheel bin. However, in recent years, the adoption of alternative units has become increasingly common, in part due to the greater number of local authorities who have begun source separate collections of certain materials.

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 wheel bins cannot be utilised. Despite the significant variations around containers used by local authorities across the UK, in 2022, **75%** of units used to collect plastics at kerbside were wheel bins, **15%** were sacks or bags, and **10%** were boxes or trolleys.

- **Kerbside collection container colours**

The *2022 RECOUP Survey* has researched the variety of colours of collection containers that are used by local authorities across the UK. Looking at just the **75%** of local authorities that use wheel bins for collecting plastic, the most popular colour is **blue (33%)**. Other colours include green, brown, grey, purple, black and burgundy. **25%** use a wheel bin where the body and lid are two different colours.

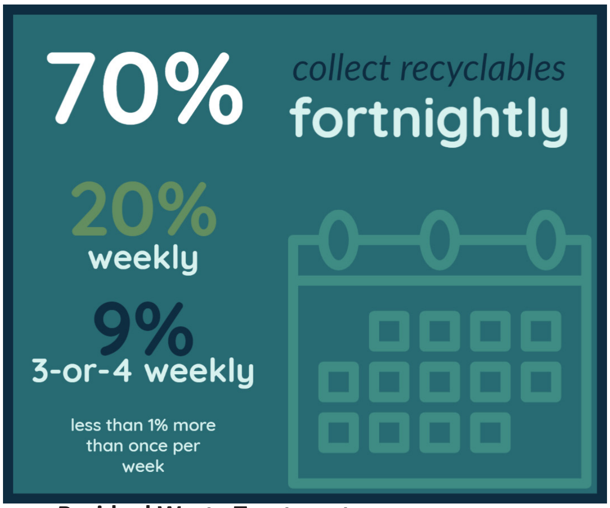
- **Co-mingled vs source separated kerbside collections**

Using answers from the *2022 RECOUP Survey* alongside local authority website communications, it can be reported that **46%** offer a co-mingled collection for recyclables with different types and formats collected together in the same unit. The other **54%** 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 **4%** 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 a MRF.

- **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, 3-or-4-weekly collections. The *2022 RECOUP Survey* can report that **70%** of local authorities collect recyclables on a fortnightly basis, **20%** weekly, **9%** 3-or-4 weekly, and **1%** more than once per week.



- **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 gate fee costs for energy recovery and landfill.

- **Energy Recovery**

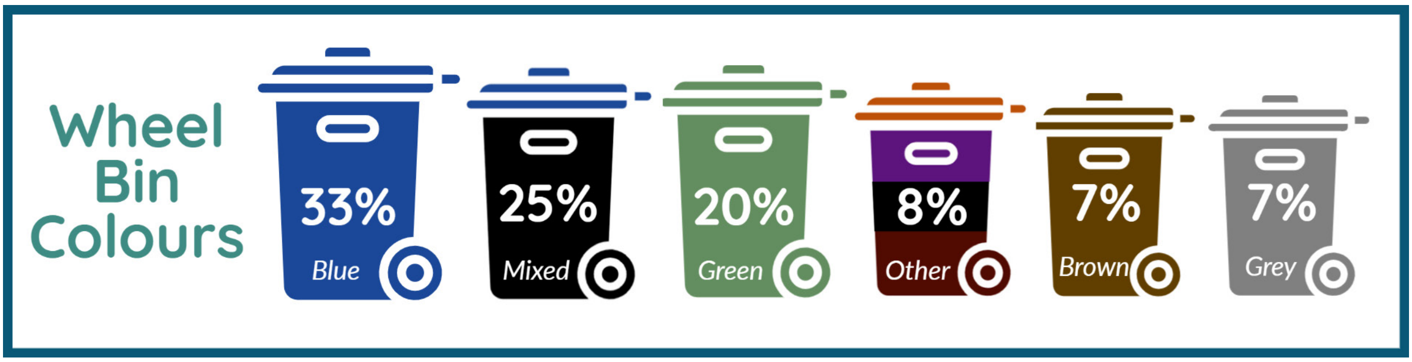
Energy recovery, otherwise known as EfW, generates energy (heat or electricity) from a residual feedstock. The UK's capacity for energy recovery has grown exponentially in recent years and is forecast to continue to do so. Responses to the *2022 RECOUP Survey* report that **75%** of local authorities 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 a number of local authorities disposing of non-recyclable materials. **25%** of local authorities stated they use landfill as a treatment solution for residual waste. However, with progress being made in the growth of alternative end of waste options, and increased reliance on energy recovery, quantities of material disposed of at landfill has reduced year-on-year over the last two decades.

- **Other Treatments**

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

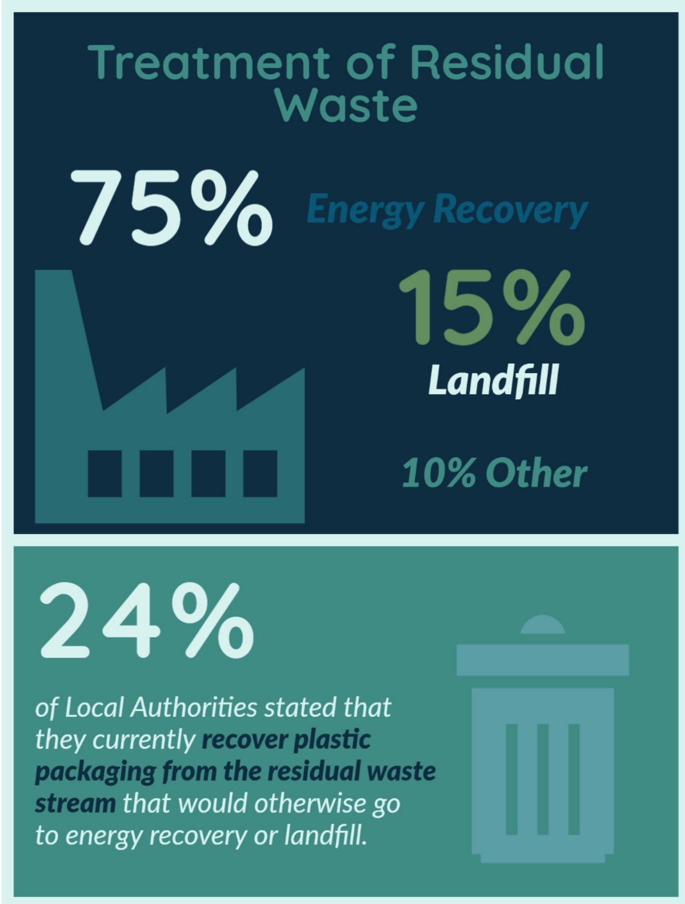


- **Recovery of Plastic Packaging from Residual Waste**

The *2022 RECOUP Survey* can report that **24%** of local authorities stated that they conduct some level of recovery of plastic packaging from the residual waste stream that would otherwise go to energy recovery or landfill.

The definition of recovery from residual waste streams raises questions as to whether recovered quantities are included in household recycled quantities recovered 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. Some local authorities report that material quantities are included within the collection data, but there is not enough information available to be able to estimate a figure for the UK.

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 dynamics around this develop as technology and potential financial investment from EPR changes over time.



Budget Cuts and Finances

When focusing on service provision, local authorities have seen their finances and budgets stretched for a number of years, and for a number of reasons. As of late 2022, energy prices and cost of living has soared, and this has impacted all business and organisations in respect of how they operate, and their costs and expenses. **24%** 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 2021-22, and this was prior to further financial pressures that will have inevitably affected councils in the latter part of the year.

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 chain.

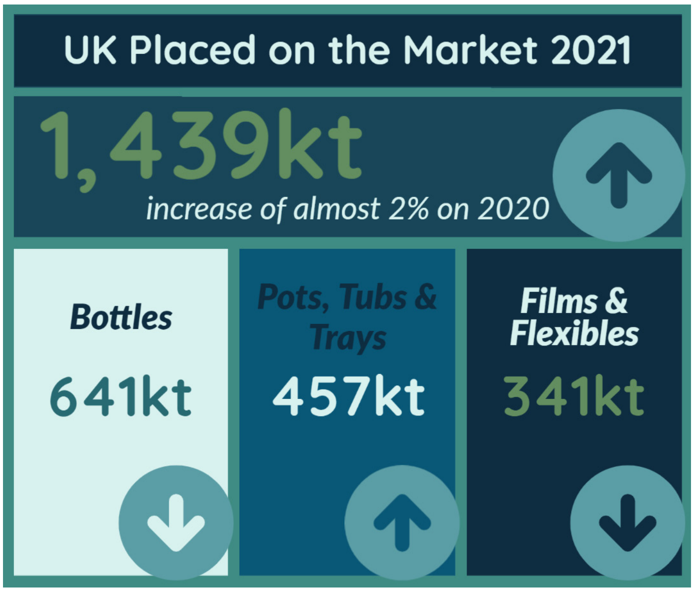
For a number of years, the *RECOUP Survey* has used the best available data when it comes to plastic packaging tonnages placed on the market (POM), and its breakdown by polymer and volume. This has come from Valpak's *PackFlow 2025* report [24] , and the subsequent updates and amendments through its *PackFlow COVID-19 Impact* reports [25] . Work continues in this area to understand and refine the figures relating to plastic packaging POM, and the *2022 Survey* uses updated figures and industry data to advise its figures.

This 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.

For 2021, the consumer plastic packaging fraction broke down as follows:



- **Non-consumer plastic packaging**

This is plastic packaging that is a mostly commercial and industrial material, with nearly half from 'manufacturing and other' environments, including 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 figures. Research is ongoing to better understand this fraction.

Plastic Packaging POM 2022

Understanding the quantity of household plastics packaging POM is essential when measuring recycling collections and performance, as well as opportunities to collect more material.

Whilst estimates can be made and trends understood, plastic packaging POM figures are subject to change. Consequently, depending on the POM data, the percentage collection rates can go up or down irrespective of changes in collection quantities. This was particularly apparent in 2020, where the impact of Covid-19 on the supply chain meant that: 1) collection quantities had increased; 2) changes in amounts placed on the market decreased; and 3) quantities of plastic packaging disposed of in non-kerbside schemes decreased.

Household Collection Performance

Since data was first collated for plastics recycling in the UK in 1994, and kerbside recycling in 2003, each annual RECOUP Survey has reported growth in plastics collected for recycling. This data is used extensively to represent both past successes and challenges for the future.

Data provided in the *2022 RECOUP Survey*, much like in previous years, has seen a number of changes and challenges that need to be considered. These include:

- Revised placed on the market (POM) figures updating those in the Valpak *PackFlow Covid Impact: Phase I and Phase II* [25] reports, and subsequent adjustments
- 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 plastic film collections at retailers
- Changes in operations and the merging of some local authorities in England
- Increase in population and changes in the number of households across the UK, with these established by the Office for National Statistics (ONS) in the 2021 Census for England and Wales [26]
- The impact of Covid-19 and respective restrictions and lockdowns on both citizens and kerbside collections in terms of material quantity and quality, and how consumer behaviour has changed as a result of this

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; over three times more bottles than were being collected through bring schemes.

The infrastructure for collecting plastic bottles from kerbside collection schemes started to see significant increases in the mid-2000s. This was mainly 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.

Plastic Pots, Tubs and Trays

Since kerbside collection data for plastic pots, tubs, and trays (PTT) started to be reported in 2007, there has been a steady increase in collection quantities. Around **10,000 tonnes** were collected in 2007, rising to an estimated **174,000 tonnes** in 2021.

Despite increasing each year, around **12%** of local authorities still do not collect PTT, offering an opportunity in the effort to increase the UK's collection rates. With a drive towards consistent collections, particularly in England where legislation is due to come into place in the coming years, every local authority in the UK should be working towards collecting PTT in their kerbside recycling schemes. However, at present, viable end markets have only been proven for the PP fraction, and end market development is still needed for PET pots and trays in particular.

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 volume of material potentially available has begun to draw focus, with retailers introducing bespoke front-of-store schemes for collecting it. It is also included in proposals as part of *Consistency in Household and Business Recycling in England* legislation [6], with it expected to be collected for recycling at kerbside by 2027.

With the support of local authority and waste management company data and insight, the *2022 RECOUP Survey* has been able to estimate approximately **25,000 tonnes** of plastic film was collected for recycling in 2021. 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 plastic film at kerbside, with it peaking at **21%** in 2016, compared to just **13%** in April 2022.

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 Reclamation Facility (MRF) and Plastics Reclamation Facility (PRF) can have a different approach to this depending on operational decisions, economic factors, and the end market availability at that time.

54%
of Local Authorities collect recycling with at least one material type or format
Source Separated

46%
of Local Authorities collect dry mixed recycling
Co-mingled

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 depending on factors, such as the target output and the speed and efficiency of material sorting at the MRF. It is more likely that, where the material quantities are bigger 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.

Overall UK Plastic Packaging Collection	
Kerbside	579,000t
Non-Kerbside	27,000t
Collection Rate	42%

In total...
606,000 tonnes
of household plastic packaging was collected at kerbside in 2021

Collection Quantities

After analysis of the reported quantities collected for recycling, the *2022 Survey* estimates **606,000 tonnes** of plastic packaging collected for recycling from UK households in 2021. This is an overall increase of **22kt**, or just under **4%**, in collection quantities compared to 2020.

RECOUP will continue to engage with local authorities and waste management companies to further understand and reflect on the composition of household plastics packaging. While it seems inevitable that figures will be nuanced due to the impact of the Covid-19 pandemic, fluctuating plastic and Packaging Recovery Note (PRN) prices, plans to continue consultations and the implementation of both *Consistency in Household and Business Recycling in England* [6], and *Deposit Return Schemes (DRS)* [8, 9], means that robust and accurate data is essential to understand their impact and success.

Collection Rates

Collection rates are the percentages of plastic packaging POM that is 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 *2022 RECOUP Survey* use the revised POM data calculated from the Valpak *PackFlow COVID-19 Impact Phase II* [25] report, with increases based on factored in 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 *2022 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 there is around 28 million households in the UK, updated to reflect the ONS data and information from the *2021 Census* [26].

Although the number of variables makes it difficult to accurately reflect future collections, it does give a scale of the challenge and performance needed from schemes in the UK. This includes the implementation of *Consistency in Household and Business Recycling in England* [6] and *DRS* [8 9] across the UK, increased funding through the reform of the Packaging Producer Responsibility System and *Extended Producer Responsibility (EPR)* [5], and future financial investment in collection infrastructure.

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

- **Plastic Bottles**

The UK has seen steady increases in plastic bottle quantities collected through kerbside recycling schemes over the last decade. This is due to provision for plastic bottle collection for recycling at kerbside being **100%** since 2019, and with the increases in the amount POM each year. However, whilst estimated collection levels continue to grow year-on-year, annual increases are unremarkable.

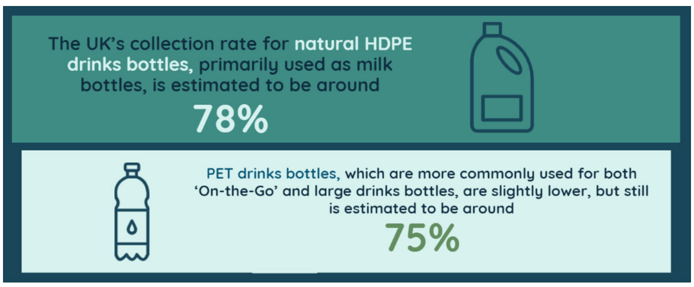
The *2022 RECOUP Survey* can report that an estimated **407,000 tonnes** of plastic bottles were collected for recycling in 2021, a collection rate of **63%**. This is an increase of around **17,000 tonnes** compared to 2019.

Plastic Bottles	
Tonnes Collected	407,000
Collection Rate	63%

- **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 use, purpose, and contents vary significantly. Whilst these have increased slightly compared to last year, the collection rates remain **78%** for natural HDPE bottles, **75%** 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 .



- **Plastic Pots, Tubs & Trays**

Despite variations in the POM data in recent years, collection rates for PTT have increased since 2013 when it was at 20%. The *2022 RECOUP Survey* estimated that in 2021, around **174,000 tonnes** of PTT were collected, giving a collection rate of **38%**. This is an annual increase of around 5,000 tonnes.

As of April 2022, **88%** of local authorities provide a kerbside collection scheme that includes PTT. This is up from 87% in the *2021 RECOUP Survey* [31] . New schemes continue to be introduced as the UK moves towards consistent collections, and therefore quantities should also continue to increase.

Plastic Pots, Tubs and Trays	
Tonnes Collected	174,000
Collection Rate	38%

- **Plastic Films and Flexible Packaging**

The *2022 RECOUP Survey* can report that the overall quantity of plastic film collected has increased slightly to over **25,000 tonnes**. This gives a collection rate of **7%**.

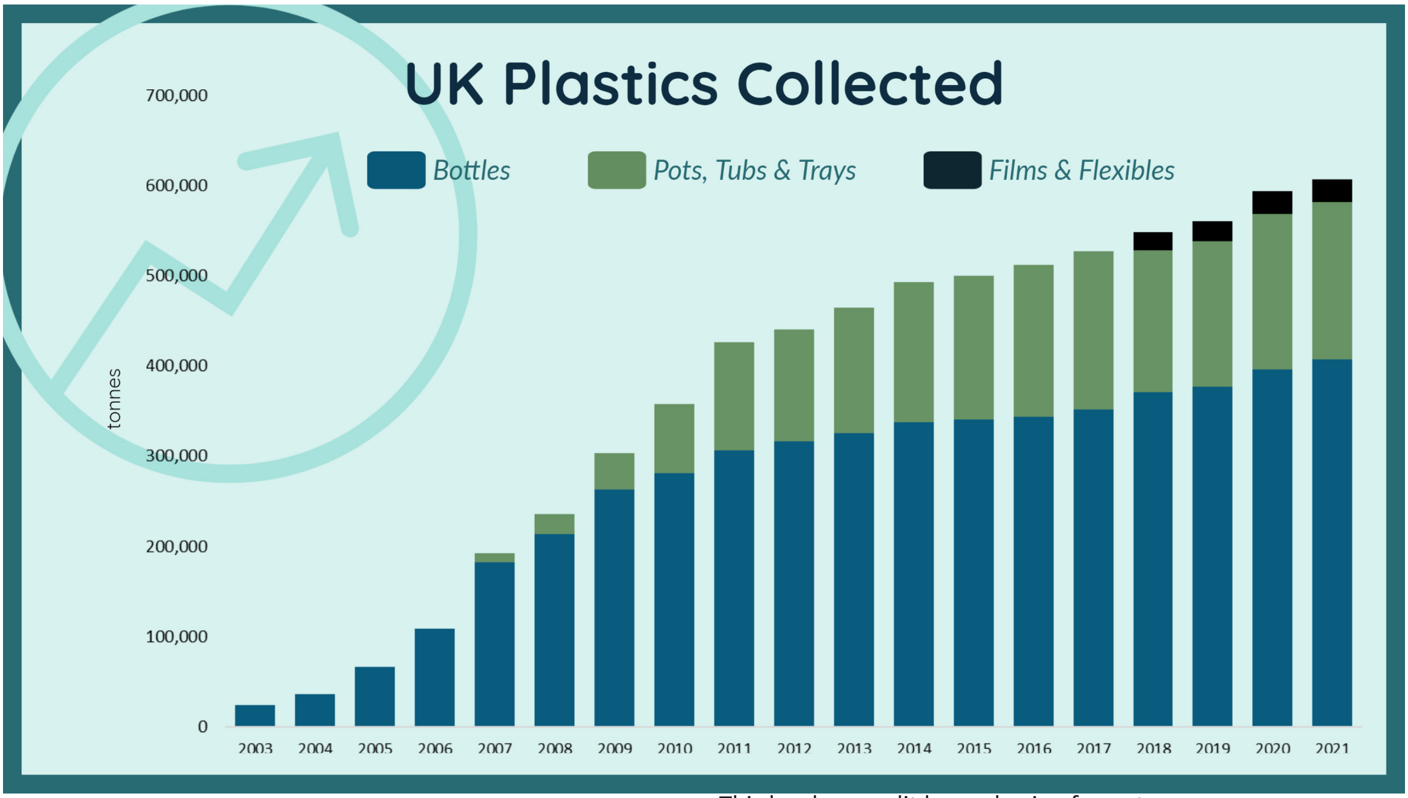
This is despite year-on-year drops in provision for the collection of plastic film by local authorities, which has reduced to less than **13%** in 2021. However, it is understood that a combination of bespoke flexible collection schemes (including retailer front-of-store) and 'wishcycling' by consumers (disposing of material that is not targeted), accounts for some of this volume.

Plastic Films and Flexibles	
Tonnes Collected	27,000
Collection Rate	7%

- **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 with the material, and limited end markets. To be recycled, plastic film needs to be presented for recycling by the consumer as clean as possible. The inclusion of plastic film and flexibles as a target material for recycling at kerbside within the *Consistency in Household and Business Recycling in England* legislation [6] creates a significant opportunity to capture a large amount of this plastic material.

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 identified include bread bags, toilet paper and kitchen roll packaging, fruit and vegetable bags, and multi-pack packaging or shrink wrap. Other materials that are generally considered difficult to recycle, or unrecyclable, include metallised packaging such as crisp packets and pet food pouches, polyvinyl chloride (PVC) film including cling film, plastic netting and compostable 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 store schemes. This generally means that specific weights of material collected by local authorities from these services are not recorded separately.

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.

Due to the variable composition of these items, it is not possible to report on the plastic quantities that could be recovered. This has been further impacted due to the widespread closures and changes in operations at HWRCs during the Covid-19 pandemic, the variable retention of different systems to control visitor numbers, and disruption to ‘away from home’ collection schemes, both in terms of local authorities' abilities to service them, and the significant increase in time that residents spent at home, generating higher quantities of waste.

HWRCs were also widely closed or accepted limited types and quantities of material for significant durations. To reflect this, **27,000 tonnes** have been estimated as being collected from away from home locations, a drop of around a third from 2019.

This has been split by packaging format.

Total per Household

The kerbside collection rate of plastic bottles and PTT makes a total average of **20.5kg** of rigid plastics packaging collected per household. Including plastic films, which only **13%** of Local Authorities collect for recycling, this increases the total plastic packaging collected per household to just under **21.5kg**.

The average amount of rigid plastic packaging consumed by UK households each year amounts to just under **40kg**. For all plastic packaging, including films, this increases to **51.5kg**.

- **Plastic Bottles**

The estimated kerbside collection rate of plastic bottles per household in 2021 was just under **14.5kg**. To provide some context about potential collections per household, if all the plastic bottles POM were collected, the kerbside plastic bottle collection rate per household would be just under **23kg**.

- **Plastic Pots, Tubs & Trays**

The average kerbside collection rate for PTT in 2021 was just over **6kg**. If all the PTT consumed in UK households was collected, the collection rate would be over **16kg** per

Recycling Rates (2012 - 2021)

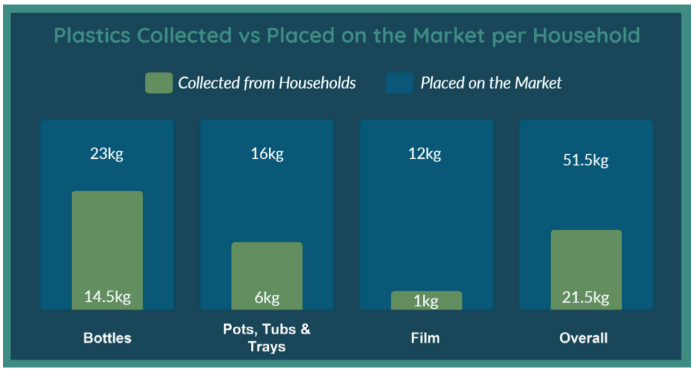
	Declared as Recycled	Placed on the Market	Recycling Rate
2012	640	2550	25%
2013	710	2260	31%
2014	842	2220	38%
2015	891	2260	39%
2016	1015	2260	45%
2017	1044	2260	46%
2018	1034	2260	46%
2019	1141	2290	50%
2020	1175	2092	56%
2021	1112	2219	50%

household.

- **Plastic Films and Flexible Packaging**

The average kerbside collection rate for plastic films and flexibles in 2021 was just under **1kg**. If all the plastic film consumed in UK households was collected, the collection rate would be over **12kg** 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.



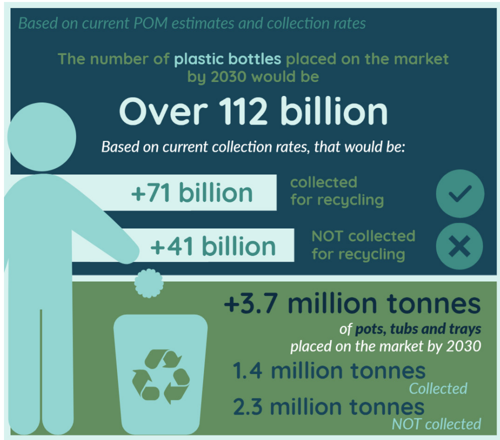
Contamination and Reject Rates

In response to a question in the *2022 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 **13%** across all materials collected. The range was hugely variable, being **as low as 0.5% and as high as 35%**. These examples are the extremes and are not considered to be commonplace, though the overall level of contamination leading to material being rejected at MRFs is a serious concern.

Following the impact of Covid-19 and other external factors that have impacted material collection by local authority services, it is important to note that in instances of staff shortages, or challenges in transit of material, some areas reduced collection frequencies, or stockpiling collected material to move on a later date.

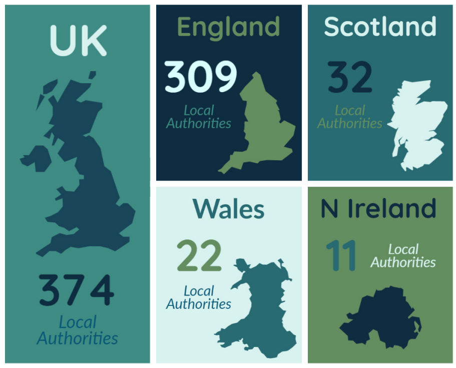
Future Estimates

Using current data, and assuming that neither the POM nor collection figures change year-on-year, it is possible to estimate the amount of plastic packaging collected in the future. Whilst not a true representation due to inevitable changes in quantities consumed, and the impacts of legislation and other drivers increasing capture rates for these items, these figures indicate the scale of plastic packaging available to be captured for recycling.



Comparison by Nation

It has always been productive to contrast and compare the different approaches and associated collection performance across the four separate UK nations. The *2022 RECOUP Survey* has estimated the relative performance of each nation by measuring both the number of households and overall collection rates.



Collection rates for each nation are estimated based on data from the *2022 Survey*, and estimations of plastics packaging POM split between each nation based on the number of households.

Plastic	Provision	Collection Rate
Bottles	100%	60%
Pots, Tubs and Trays	86%	37%
Films and Flexibles	13%	7%
TOTAL		40%

Plastic	Provision	Collection Rate
Bottles	100%	79%
Pots, Tubs and Trays	95%	58%
Films and Flexibles	5%	9%
TOTAL		56%

Scotland		
Plastic	Provision	Collection Rate
Bottles	100%	55%
Pots, Tubs and Trays	88%	31%
Films and Flexibles	9%	4%
TOTAL		35%

Northern Ireland		
Plastic	Provision	Collection Rate
Bottles	100%	65%
Pots, Tubs and Trays	100%	45%
Films and Flexibles	0%	5%
TOTAL		44%

Household Recycling Infrastructure

RECOUP has updated its Plastic Packaging Sorting & Reprocessing Infrastructure report ahead of legislation and recycling targets changing. The UK must look at its waste management and recycling infrastructure to ensure it can achieve its sustainability goals.

To inform and provide context around UK infrastructure, specifically in its ability to meet the 30% recycled content targets to be required by HMRC's *UK Plastic Packaging Tax*, RECOUP has updated its *UK Plastic Packaging Sorting & Reprocessing Infrastructure* report [31] in 2022 to identify the available capacities for plastic packaging recycling in the UK. Due to barriers in collating often commercially sensitive data and the lack of a 'go-to' list of UK facilities, the capture and analysis of this data is an ongoing activity for RECOUP.

According to available sources, **1,112kt** of plastic packaging was reported to have been recycled in 2021, **593kt** of which was reprocessed in the UK. Looking at the data outlined below, material sorting capacity at both Material Reclamation Facilities (MRFs) and Plastic Reclamation Facilities (PRFs), by quantity at least, is not considered to be a barrier to meeting current recycling targets.

With around **47%** of plastic packaging waste currently exported for recycling every year, and the growing limitations of options for destinations, 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 is primarily from the increased requirement for recycled content in packaging to meet packaging targets, driven by both legislation and brands, and to manage the potential impact of current and future export market restrictions.

Material Sorting

- **Material Recovery / Reclamation Facilities**

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 infra-red (NIR) technology. Each fraction is baled and prepared for shipment to either a PRF, reprocessor, or for export. RECOUP estimates that there are **123** MRFs in the UK that can 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 **1.7mt to 2.1mt** 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 900kt and 1.1mt** of plastic packaging being sorted in the UK, annually.

- **Plastic Recovery / Reclamation Facilities**

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 that take mixed plastics from MRFs for further processing.

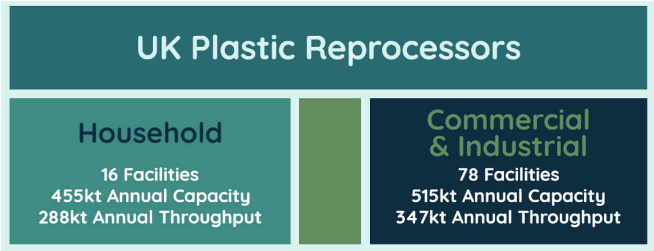
As of 2022, it is understood that several MRFs can achieve similar quality standards to that of a PRF and would therefore bypass this process. As such, whilst these PRFs may provide additional capacity for the sorting and quality improvement of recycled plastics, the UK's capacity to recycle is not dependent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

Material Recovery Facilities (MRF)		
123 Facilities	900kt - 1.1mt Annual Throughput	1.7mt - 2.1mt Annual Capacity

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, and 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 for the site(s) to attract feedstock.

The UK has more than 400 accredited reprocessors that handle plastic packaging in some form or another and at various volumes. **16** of these sites handle household plastic packaging, with an annual capacity of around **455kt**, with an actual throughput of **288kt**.



Food-Grade Packaging and Other Packaging Types

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

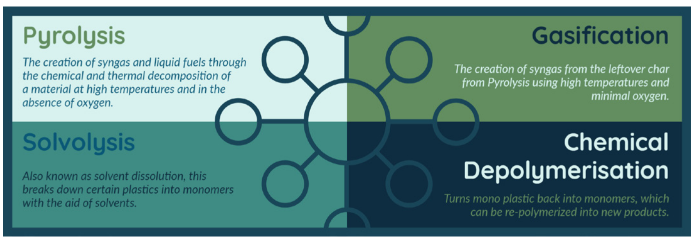
Recycled content for food-grade packaging is particularly sought after and of higher value due to the additional steps required in its collection and production to ensure that it meets criteria set by the Food Standards Agency (FSA) [34] in the UK, and European Food Safety Authority (EFSA) [35] in Europe. Currently, the UK has **102kt** of capacity to produce food-grade packaging, **70kt** of recycled PET and **32kt** recycled HDPE.

Chemical / Non-Mechanical Recycling

Chemical recycling (or non-mechanical recycling) are processes which change the chemical structure of waste plastics by converting the material back to a shorter molecular chain. This is then used to make fuels, or even converted back to produce new 'virgin-like' raw materials.

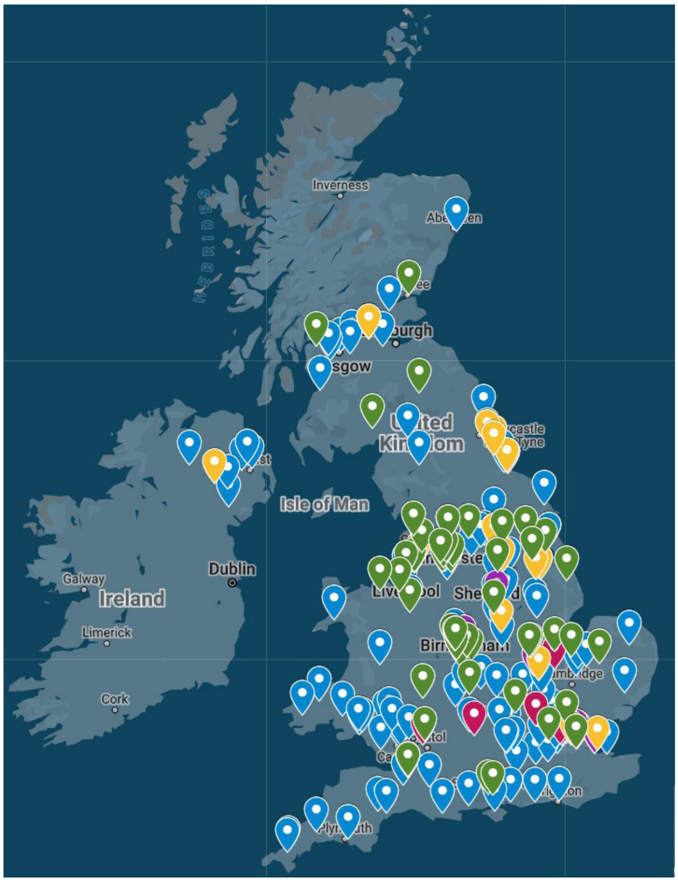
It is not a one-size-fits-all model for plastics recycling and should be used to complement current mechanical recycling processes, not to replace them. As with mechanical recycling processes, the right feedstock is required, albeit with different target materials and contaminants. While dry organic material may not be an issue, contaminants can include PET, PVC, water and wet material, and non-plastics.

As of 2022, the status of chemical recycling with regards to policy is still being debated. Whilst it is considered recycling, there are concerns around the practical elements of the legislation to enable it to be counted as recycled content through the allowance of mass balance approach to reporting recycled content. There are currently no commercial-scale chemical recycling facilities in the UK, though there are **12** sites known to be operating on, at least, a trial scale. New developments in the sector are under construction, and interest and investment continue to grow.



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 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.



A map showing the location of MRFs, PRFs, reprocessors and chemical recycling facilities in the UK

There are challenging commercial conditions and fine profit margins in the reprocessing sector, indeed if profits are delivered at all. This is where 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.

Ultimately, in order for the UK to progress its recycling rates, there needs to be a three-point focus to transform its capability to recycle its plastic packaging. These are for:
- Plastic films and flexibles
- Non-bottle PET
- Food-grade plastic packaging

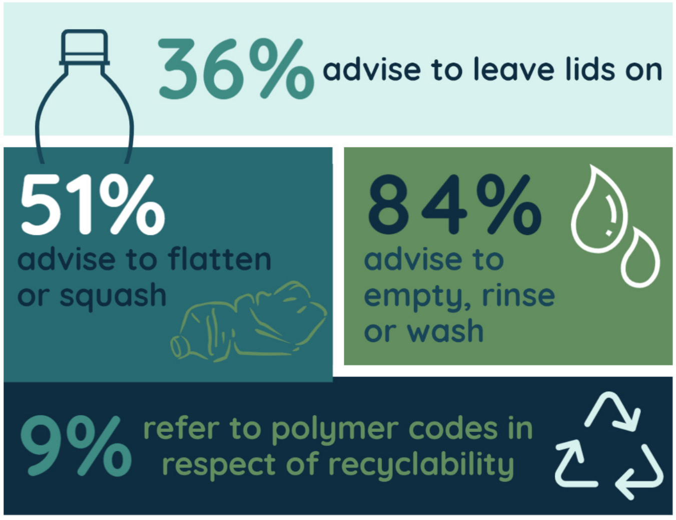
Citizen Communications

Communication to citizens is crucial in the effort to drive up collection quantities and reduce contamination. The reform of the UK's Packaging Producer Responsibility System should increase funding for strategic citizen communications and behaviour change activities that can relate what can and cannot be recycled, and how.

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 recyclate through the absence of non-target materials.

Local authorities continue to report through the *RECOUP Survey* that reducing contamination is an area of considerable focus and priority for communication campaigns and future investment. In 2022, **68%** of local authorities reported having ran a communications campaign within the last 12 months, with a further **21%** having done so in the two years prior. **65%** of local authorities reported that they will be running a communications campaign around recycling in the next 12 months. Of the campaigns that have taken place in the last few years, **35%** focused primarily on the reduction of contamination, **16%** the introduction of a new service, **9%** clarifying target and non-target materials, **8%** a change of service frequency, and **3%** introduction of a new plastic collection.

With the proposed introduction of legislation, consistency in collections is something that local authorities are striving for. This should not only be about the range of materials collected for recycling, but also how they are presented for recycling, and how they are communicated to residents. For the *2022 RECOUP Survey*, research was carried out to understand the instructions being communicated to residents through local authority websites.



Messages on local authority websites vary across the UK, often down to 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 *2022 RECOUP Survey* found that **36%** of local authorities ask for lids to be left on bottles, **12%** ask for lids to be taken off, and there is further variation as to whether the separated lids can be recycled or not. The remaining **52%** do not communicate a preference either way.

Although there may be operational issues at Material Reclamation 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.

Other messaging that is communicated by local authorities include **84%** that ask for items to be empty, rinsed and/or washed, **51%** that ask for items to be flattened or squashed, **49%** to be disposed of loose and not bagged, and **10%** to separate any card or paper.

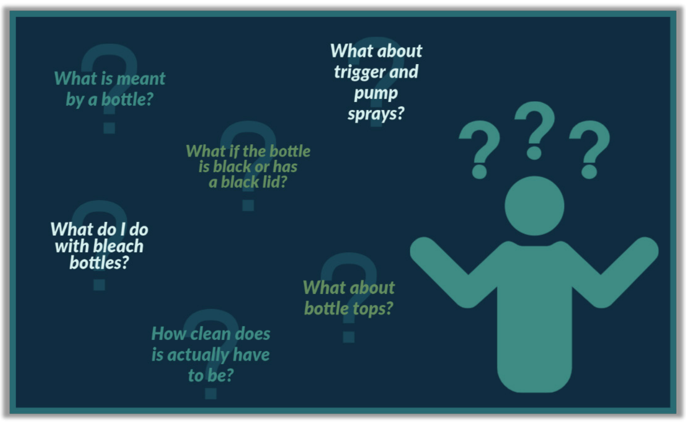
While most local authorities have moved away from describing their target and non-target recycling materials by polymer codes, **9%** still use them in their communications to residents. Considering the range of polymers that can be used for packaging formats, including mixes of multiple plastics and other materials, RECOUP recommends that polymer codes are not used as a method of communicating recyclability to residents.

Increasing material quality through the promotion of waste reduction and recycling of plastic is one of the main aims of RECOUP, and *Pledge2Recycle Plastics* [20] provides education to help achieve this.

Plastics recycling campaigns have been proven to increase the capture of target plastic material, reduce contamination, and support the introduction of a change of service. With increasing demands being placed on local authorities, the *Pledge2Recycle Plastics* team can support the growing demand of the public by supplying local authorities ready-made resources, information and communications campaigns to their residents.

Pledge2Recycle Plastics is RECOUP's citizen education and behaviour change initiative, working to reduce consumer confusion around plastic recycling. This is done by supplying resources that answer questions about and explain the recycling process. There is a wealth of free information and education downloads, demonstrations, and presentations, as well as through online campaigns. *Pledge2Recycle Plastics* is promoted across a wide variety of social media channels and a dedicated website, **www.pledge2recycle.co.uk**.

RECOUP and the team at *Pledge2Recycle Plastics* continue to be questioned daily by residents and local community groups on the basic principles of kerbside recycling. This includes all plastic products, in particular the recyclability of pots, tubs, and trays (PTT), how clean they need to be when presented for recycling, along with whether different colours of tray are accepted. 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.



As we move 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 building on the message as citizens begin to take onboard recycling principles and help to give context as to why individual behaviour is so crucial to collective success. Providing a consistent message to citizens increases trust in the process. In addition, with the increase of reuse material being available, the full life cycle journey still needs to be promoted. Without this, citizens disengage from the idea that items will reach an end of life, and what to do with them then.

Misleading media headlines can cause citizens to question whether what is claimed as being recycled is. Building trust is key to sustained behaviour change, and citizens are open to the idea of making the right environmental choices and are questioning the process and alert to attempts of greenwash.

Media rhetoric around plastics previously led to a surge in plastic-free groups. RECOUP and *Pledge2Recycle Plastics* often connect with such groups to challenge their perceptions and beliefs around the use and recycling of plastic packaging. The media reports of recycling material ending up in other parts of the world and abandoned in the natural environment does little to convince the public that their waste is recycled. It is vital that industry and local authorities commit to trade and recycle materials ethically, in the UK where possible, or at least within Europe and developed Organisation for Economic Co-operation and Development (OECD) countries [36] . Where this is not possible, it is critical that a reasoned explanation is available if citizens are to continue to have faith in the recycling process.

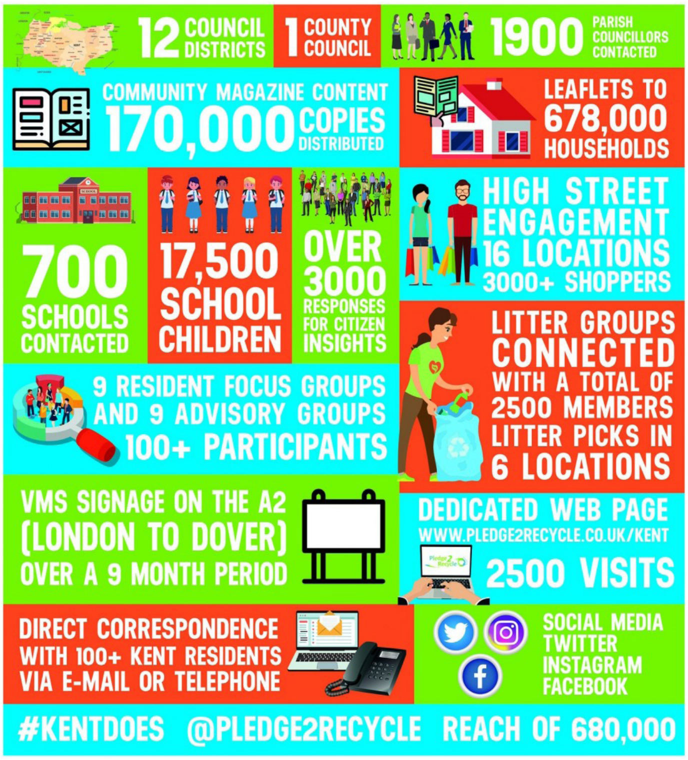
Householders are still unsure about the recycling process and what happens to their waste. There is confusion and scepticism about around how the recycling process works and whether new items are created. Through *Pledge2Recycle Plastics*, the team engage with citizens to inform and educate on the plastics recycling journey and have a range of resources and workshops to aid citizen understanding and cut through their confusion. It is necessary to supply more in-depth conversations to help explain and reduce unintended consequences of alternative material choices that can have a higher carbon impact or lead to increased food waste.

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 *Pledge2Recyce 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**.

Kent UP Live Lab

RECOUP secured a grant from UK Research & Innovation to co-fund an industry-led communications and behaviour change research project in Kent, called *Kent Understanding Plastics 'Live Lab'* [37] . Bringing together key industry partners including Kent Resource Partnership, Veolia, N+P Group, Viridor, Ocado, Ecosurety, British Plastics Federation (BPF), Plastics Europe and PPS Recovery Systems, this project provided ground-breaking research to understand the connection between communications and plastics recycling. Advice on plastics recycling was agreed with all Kent councils, and the two materials reprocessing facilities involved to provide a consistent message. The project connected with over 678,000 households across Kent over 12 months, to gain citizen insights, deliver plastics recycling messages and evaluate the resulting tonnage and contamination data. The project is the first of its kind to both deliver and measure the impact of different recycling communications methods on behaviour change. The insights collected provide evidence that can support future plastics recycling engagement strategies, *Best Practice Guide for UK Plastics Recycling Communications* [38] , which is free to download from the RECOUP website. Alongside the guide is also a deep dive report, *Kent Understanding Plastics 'Live Lab'* [37] , which details the communications themselves, costs, data, legislative influences, and plastics recycling end market pressures.

The team are working on a follow-on project which will be launched early 2023 and will take the learnings from Kent exploring how the recycling journey can be relayed to residents via digital media channels.



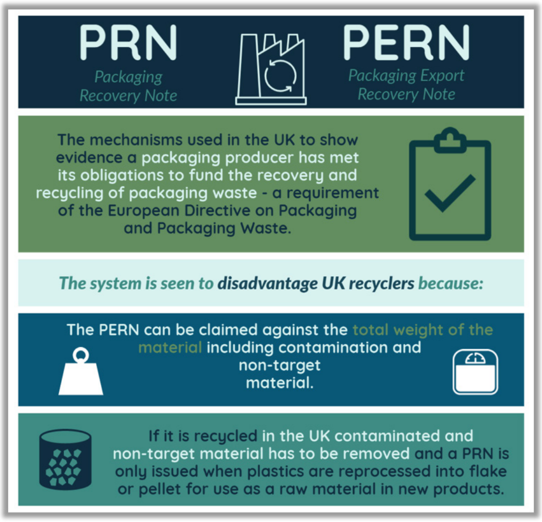
Recycled Plastics Markets

Attitudes towards waste and plastics have changed considerably in recent years, for industry, government and the general public. Regulatory changes worldwide have seen shifts in focus to domestic recycling, and away from the use of developing countries in particular.

Politically in the UK, there is a continuing shift to focus investment on the capacity to sort, reprocess and recycle materials domestically. However, there will need to be a robust approach to export markets to bring this change about. At present, around **47%** of plastics considered recycled are exported from the UK, with a primary reliance on EU Member States, albeit with material still going to Organisation for Economic Co-operation and Development (OECD) [36] and non-OECD destinations.

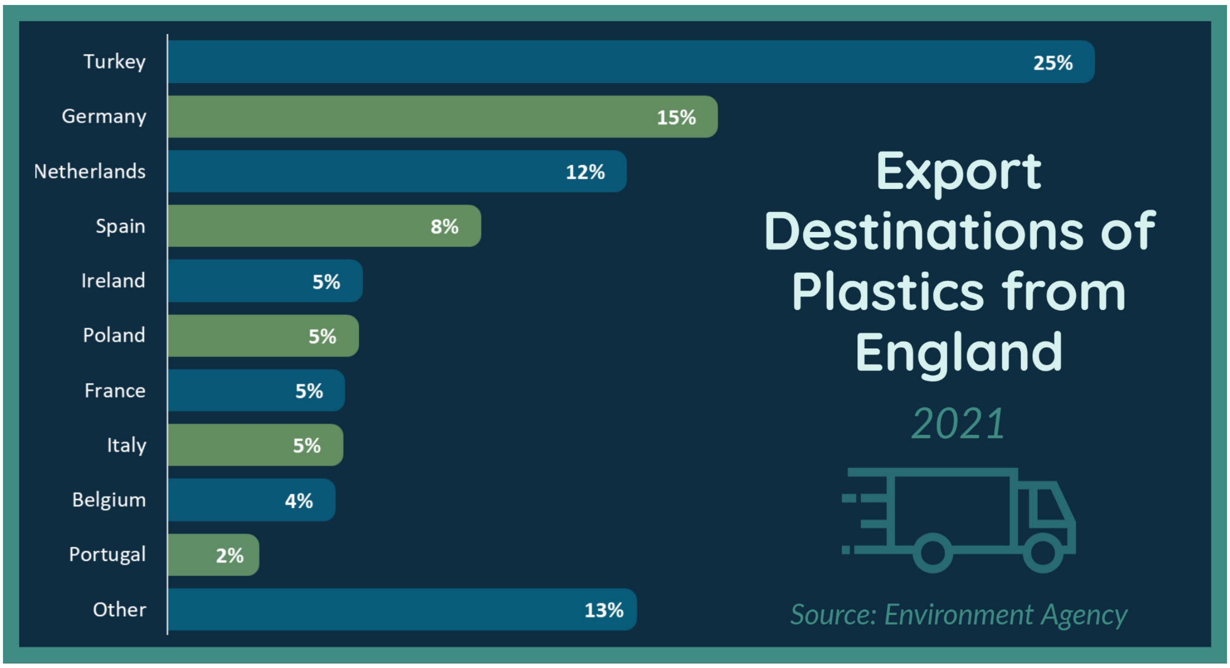
The financial incentives created by the packaging producer obligation system and the use of Packaging Recovery Notes (PRN) and Packaging Export Recovery Notes (PERN) to export material for recycling have historically made it more attractive to use export markets. This is despite the additional challenges of verifying and auditing outcomes of material that has been exported.

Countries from Asian markets, particularly China, which previously took high quantities of recycling materials from EU countries, 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) N*ational Packaging Waste Database (NPWD)* [39] reports the quantities of plastic packaging recycled within the UK and what is exported for recycling. For 2021, NPWD reported a preliminary figure of **1,112kt** of plastic packaging declared as recycled from all sectors, a recycling rate of just over **49%**. Plastic packaging collected from households accounts for around half of the UK's total recycled plastics. In 2021, **47%** (around 523kt) of the total recycled was exported and **53%** (589kt) was recycled domestically. This is a significant shift towards domestic recycling in comparison to previous years where as much as 65% was being exported. This could be due to a number of factors, including the UK having left the EU, making the export of waste more challenging, increased transportation costs, and tighter legislative controls.



of the 1,112,000 tonnes of UK material recycled

53% *was recycled in the UK.*

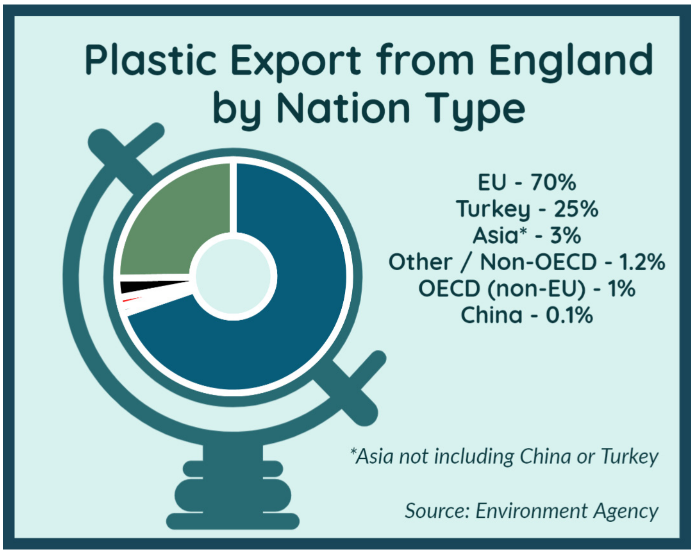
47% *was exported for recycling.*

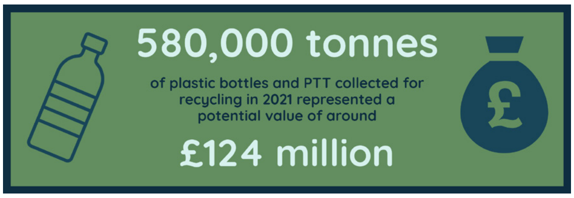
	Q1	Q2	Q3	Q4	2021 Total
Total Tonnes	297kt	285kt	260kt	269kt	1,112kt
UK Tonnes	145kt	156kt	146kt	146kt	593kt
% of Total Recycled in the UK	49%	55%	56%	54%	53%

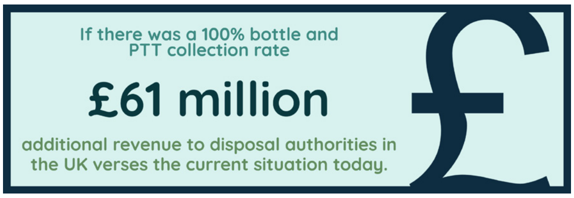
On 1st January 2021, changes were made to the *Basel Convention* [40] coding and controls for the export of waste plastics. These changes mean that only plastics which are destined for recycling operations, consist of almost exclusively one type of plastic, and are almost entirely free from contamination, as well as mixtures of PP, PE and PET, can continue to be exported under 'Green List' controls [41] , the latter on the condition that they are destined for separate recycling. All other plastic exports must be notified and receive specific consent for export prior to any shipment.

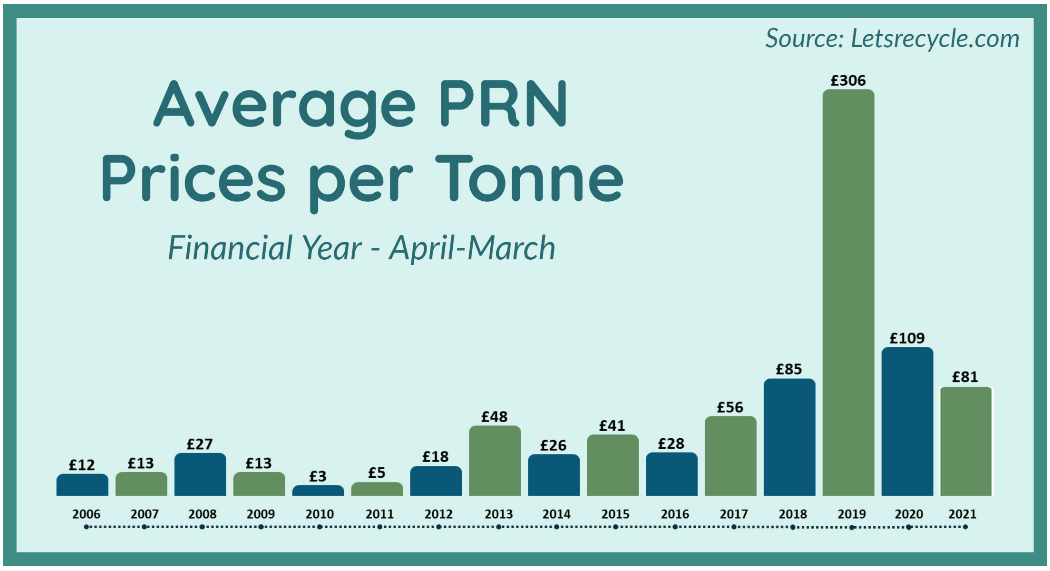
Plastic packaging recycling continues to provide income generation, employment and business opportunities for local authorities, waste management and reprocessing providers. However, they operate in tough commercial conditions, with fine or no profit margins. As such, all elements of the recycling chain 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, huge 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 2021, PRN prices averaged **£81 per tonne**, ranging from **highs of £120, to as low as £50**. To demonstrate the fluctuation of these costs, in November 2022 these hit highs of £400 per tonne.

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) can play a pivotal role to ensure this.









Plastic Waste Crime

Waste crime is a global issue commonly seen in many of the negative environmental news stories about plastics and the effects it has on nature. Waste crime can come in many forms, including illegal sites, fly-tipping and littering, and exporting of material declared recycled to developing countries for disposal.

The main challenges for local authorities with regards to waste crime are litter and fly-tipping. These can both 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* legislation [42] 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 [43] . Further to this is the value of the littered material itself which is not being captured for recycling.

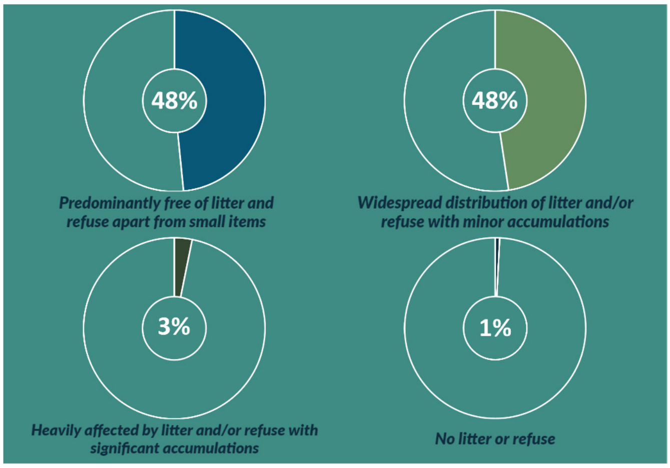
Half of all local authorities who responded to the *2022 Survey* stated that they had seen an increase in litter and fly-tipping in the last 12 months. However, from the near 200 local authorities who provided data on reported litter and fly-tipping for both 2020 and 2021, instances were shown to have dropped slightly year-on-year.

Litter

The *Litter Strategy for England 2017* [44] 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 give an indication of 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.

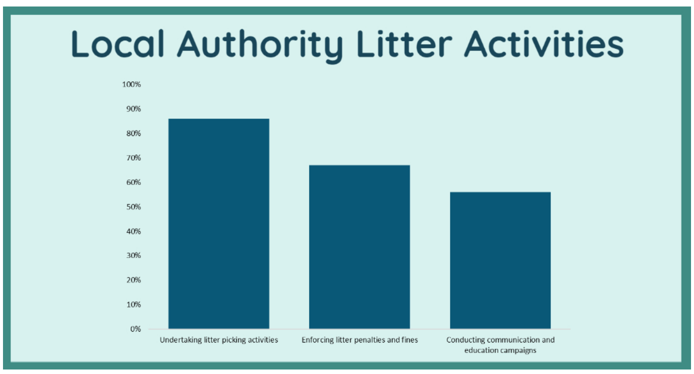
The *2022 RECOUP Survey* can report that out of those local authorities that shared an opinion, **62%** considered litter a high or very high priority for their authority, with **51%** reporting that their area had a 'widespread distribution' or were 'heavily affected' by litter. **86%** of local authorities who responded said that their area undertakes litter picking activities, **67%** enforce litter penalties, and **56%** conduct communications and education campaigns.



Fly-tipping

The *2022 RECOUP Survey* found that **67%** of local authorities consider fly-tipping a greater problem than litter, a slight decrease compared to data received in the *2021 Survey* [31] .

While exact figures are not possible to ascertain, in previous years 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 black sacks without a waste contract and leaving it in streets or parking areas.



Policy & Regulation

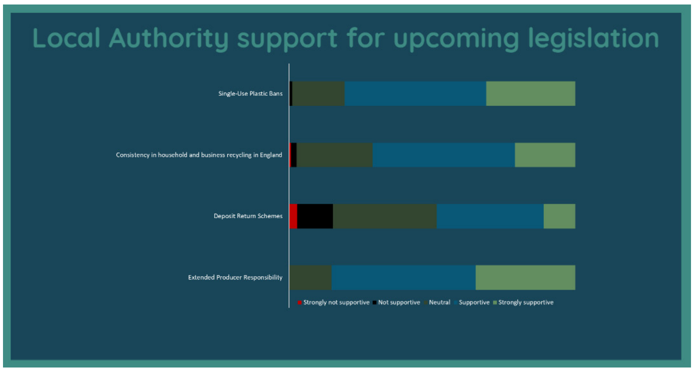
Recent years have seen discussions and development of environmental policy and legislation in the UK, and internationally. This continues to be in various stages of implementation and will see major changes for the UK's waste and recycling sector in the coming years.

The upcoming 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, 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 UK government and industry partners and submitted consultation responses for these policies over the last few years.

The *2022 Survey* asked local authorities for their perspectives on the following legislation:

- **Extended Producer Responsibility (EPR)** [5] : **85%** of local authority respondents said they were supportive or strongly supportive of the introduction of *EPR*. The remaining authorities said they were neutral.
- **Deposit Return Schemes (DRS)** [8 9] : **49%** of local authority respondents said they were supportive or strongly supportive of the introduction of *DRS*. **15%** said that they were not or strongly not supportive. The remaining authorities said they were neutral.
- **Consistency in Household and Business Recycling** [6] : **71%** of local authority respondents said they were supportive or strongly supportive of the introduction of *Consistency in Household and Business Recycling in England*. **3%** said that they were not or strongly not supportive. The remaining authorities said they were neutral.
- **Single-Use Plastic Legislation** [10] : **81%** of local authorities said they were supportive or strongly supportive of *Single-Use Plastic* legislation. **1%** said that they were not or strongly not supportive. The remaining authorities were neutral.



The Environment Bill

In 2021, the *Environment Bill* was passed in parliament making the *Environment Act* legislation UK law [45] . This allowed ministers to introduce a variety of waste reforms around *EPR* [5] , *DRS* [8 9] and consistent recycling collections in England [6] . The independent Office for Environmental Protection (OEP) will be in charge of enforcing the changes and holding public bodies to account, with any changes being driven by new legally binding environmental targets [46] .

Building towards commitments set out in the *25-Year Environment Plan* [3] for the UK there has been a primary focus on waste reforms, and outcomes from the consultations on these have partially come out during 2022. Further consultations should be expected to provide clarity and refinement ahead of the implementation of these policies. 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.

Table 1 - 2021 and 2022 business recycling targets for the current packaging producer responsibility scheme.

	2021 Business targets	Overall recycling rate	2022 Business targets	Overall recycling rate
Paper	79.0%	67.8%	83.0%	71.5%
Glass	81.0%	69.1%	82.0%	70.8%
Aluminium	66.0%	56.0%	69.0%	58.0%
Steel	86.0%	77.3%	87.0%	77.6%
Plastic	59.0%	49.8%	61.0%	51.5%
Wood	35.0%	36.3%	35.0%	36.9%
Overall Recycling	**76.0%**	**66.3%**	**77.0%**	**67.6%**

HMRC's UK Plastic Packaging Tax

In April 2022, HMRC introduced the *UK Plastic Packaging Tax* [7]. 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 packaging which is predominantly plastic and is set at **£200 per tonne** for packaging with **less than 30% recycled content**.

The UK government stated that the key aim of the tax was to provide an economic incentive to use recycled material in plastic packaging, greater demand for this material and thus stimulate 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.

As of September 2022, the number of companies registered for the tax was reported as being lower than anticipated, and HMRC continues to provide information and guidance for businesses. This includes a toolkit of what they need to do to register for, and their obligation towards the *Plastic Packaging Tax*. The tax creates many opportunities and drivers to increasing demand for recycled plastics, with barriers such as the inclusion and evidence of chemically recycled material through the mass balance approach currently being discussed, potentially making this a viable source of recycled material.

Extended Producer Responsibility

The main points of the *EPR* policy changes in the Summary of Consultation Responses and government response [47] to the 2021 *EPR* consultation include:

• *EPR* payments will go towards supporting the collection of additional materials such as plastic films and flexibles.
• Modulated fees based on recyclability will be introduced in 2025.
• The current Packaging Recovery Note (PRN) and Packaging Export Recovery Note (PERN) system will continue, at least until 2024.
• Payments for commercially collected packaging waste will be considered.
• The threshold for producer recycling obligations will be maintained.
• All compostable and biodegradable materials will be required to have a 'Do Not Recycle' label.
• A Scheme Administrator (SA) will be appointed, who will manage the scheme, including calculating *EPR* payments to distributing EPR funds to Local Authorities.
• The *EPR* scheme will be reviewed after two years of its operation.
• Introduction of a *DRS* in Scotland (from August 2023) [9] , and England, Wales, and Northern Ireland, at a later date [8] .

- **Proposed Recycling Targets**

Proposals in the *EPR* consultation include ambitious recycling targets for **2024 (51%) and 2030 (62%)**. The final proposed targets released in the response to the consultation display the most up-to-date targets to be introduced in 2024. With kerbside collections of plastic films and flexibles to commence in 2027, the targets for 2030 include expected collections of this material. They also include additional recycling collection requirements, such as a mandatory fibre cup take-back scheme expected to commence in 2025. To meet increased recycling targets, there will not only need to be an increase in collections of material, but also an increase in the available infrastructure needed to process such large quantities of material. While the UK possesses the necessary capacity to sort collected material, there are currently not enough processing facilities available in the UK to recycle the material expected to be collected.

Table 1: Recycling targets for packaging in scope of EPR regulations

	Targets for 2024		Targets for 2030	
	Proposed in consultation	**Final proposed targets**	Proposed in consultation	**Final proposed targets**
Plastic	41%	**51%**	56%	**62%**
Overall recycling rate	63%	**68%**	81%	**76%**

- **Maintaining the PRN / PERN System**

In March 2021, as part of the original *EPR* consultation, it was stated that the PRN system would be replaced by direct payments to recycling reprocessors. However, this option has been delayed and the PRN system will remain to ensure that *EPR* can be implemented by 2024. This is partially addressed by the consultation on *Reforms to the Packaging Waste Recycling Note (PRN) and Packaging Waste Export Recycling Note (PERN) System and Operator Approval*, conducted by Defra in mid-2022 [48] . The outcome of which is still pending. It is unclear how the income from PRN payments in its current guise will fund the infrastructure needed to process the expected recycling rates under *EPR*. This is particularly concerning as the expected collection rates for kerbside flexible films alone would require significant infrastructure investment to increase reprocessing capacity. Greater transparency in the PRN/PERN system is needed, as are adjustments to reporting requirements to reduce volatility in the recycling markets. RECOUP believes the proposals do not go far enough to maximise the environmental and commercial opportunities that exist within the system and to develop the plastic packaging reprocessing infrastructure needed in the UK.

Currently, there are financial incentives created by the packaging producer obligation system to export material for recycling. This is due to the value of the material being weighed at the point of export, whilst material recycled domestically is based on the weight later on in the process after yield losses and contaminants are removed. This has historically made it more attractive to use export markets rather than recycle domestically. This is despite the additional challenges of verifying and auditing outcomes of material that has been exported. The commercial advantage of the PERN to export plastic packaging for recycling and to develop the reprocessing infrastructure in the UK must be addressed. This is a major policy change that needs to be made. This would not only level the playing field for UK recyclers to develop the UK plastic packaging recycling infrastructure, but also give the incentive to recycle the material in the UK. This will maximise the benefits from the commercial value and 'green jobs' employment opportunities in the UK. An auditing and enforcement function around the revenues generated from the PRN/PERN system is needed. This requires transparency around revenues generated by the PRN/PERN system, ensuring an auditing and enforcement function is integral to the system to provide the evidence to verify what is reported in the PRN/ PERN revenue categories.

- **Proposed Payments of EPR**

Under the proposed *EPR* scheme, funds are generated through payments on packaging placed in the market. Those that are obligated to pay under *EPR* are the manufacturer of the packaging placed on the UK market, and importers. However, the dispersal of fees can vary depending on the size and scale of the producer or importer. It is proposed that producers that record an annual turnover of over £2 million or place over 50 tonnes of packaging on the market will be required to meet two types of payments under *EPR*. The first will be fees calculated to cover the cost of clean-up of packaging placed on the market by that producer. The second will be the continued purchase of PRNs and PERNs, which may also include an increased purchase requirement under *EPR*. Future calculations may also include the clean-up of litter in some devolved nations. Small-scale producers with an annual turnover between £1 and £2 million and place 25 to 50 tonnes of packaging placed on the market will be required to submit data on their packaging but will not face any *EPR* fees or PRN obligations. Those with an annual turnover under £1 million and have less than 25 tonnes of packaging placed on the market, will have no obligations under *EPR*. However, producers that sell unfilled packaging to these businesses that fall below the £1 million mark will be required to meet all *EPR* and PRN data reporting and payment obligations.

Funds raised under the *EPR* scheme are intended to move the full net cost of managing public waste from local authorities to producers and to help increase the recycling rate for packaging across authorities. Currently, the types of recycling material accepted for kerbside collections vary from council to council. *EPR* Payments made by producers and importers will go directly to a local authority where, with guidance, it will be up to the local authority to determine how they will work to improve their collection rate. Payments to local authorities will be allocated depending on the recycling rate. The better the recycling rate, the higher the payment received by the authority, once other area-specific factors have been considered. If an authority completes more than what is considered an “efficient and effective” performance, it will receive extra funds from the *EPR* scheme to cover the cost of the additional performance fees. In addition to payments to local authorities, producers might also be required to pay for the cost of clean-up for ‘commonly littered items.’ These are items of packaging that are likely to end up in public waste. Producers might also pay for the communications aimed at preventing littering, and the cost of managing packaging that could end up in public bins. Payments for litter are currently not included in England and Northern Ireland.

- **Changes for Sorting Facilities**

Following the implementation of *EPR*, regulations for existing material sorting facilities will be amended. Sorting facilities, referred to as ‘First Points of Consolidation’ (FPOCs) under *EPR*, are facilities that receive and handle packaging waste and report packaging data for *EPR* purposes. FPOCs will be required to receive accreditation and report data on packaging collected, managed, and handled.

Accreditation processes are not expected to take place during the initial implementation of *EPR* in 2024. Although FPOCs will be required to record and submit data, they will not be required to give proof of recycling from reprocessors or exporters and will not have a minimum quality output for the material. There is a strong intention under *EPR* to increase sampling and data reporting requirements for FPOCs. However, without a minimum quality output for material, it is uncertain how UK FPOCs will be incentivised to process the projected recycling targets at a high-quality level.

- **Compliance**

To ensure compliance with proposed regulations under *EPR*, the new OEP will monitor enforcement activities concerning producers, compliance schemes, reprocessors, and exporters. There will also be a ‘Technical Liaison Group’ put in place that will support dialogue between all the parties involved in *EPR* and generate feedback on the functioning of regulations

Deposit Return Schemes

There is still momentum for a *DRS* to be used across the UK to increase recycling rates and reduce the littering of a variety of drink containers. However, its introduction has seen considerable delays over the past few years. The UK government’s consultation on introducing a *DRS in England, Wales and Northern Ireland* are without a definitive timeline regarding its implementation [8] . Scotland are intending to implement a *DRS* independent of the rest of the UK, with **August 2023** as the ‘go-live’ date for the scheme [9] . The Republic of Ireland is also due to launch its own *DRS* in **February 2024** [49] . While exact criteria are still to be finalised, it is expected that the fee for deposits will be set at 20p (and 15-25¢ in the Republic of Ireland), and that there could potentially be some variation in the target material, with different devolved nations taking different positions on what containers in-scope. For plastic, however, it is widely expected that PET drinks bottles between 50ml and 3 litres in size will be within the scope of all schemes. The use of a ‘Digital DRS’ (DDRS) is currently being assessed. A DDRS is where consumers can claim their deposit at home by scanning their drinks containers on their smartphones when placing them for recycling. This would be in addition to using Reverse Vending Machines (RVMs) when away from home, as is used in a traditional return to retail *DRS* scheme. The Resource Futures report that explores the economic impact of a DDRS found it could offer significant savings over a traditional ‘return to retail’ scheme. In the summer of 202, the UK’s first DDRS pilot was delivered in Wales [33] , and other pilot projects are testing this system, either being delivered or planned for the near future.

Consistency in Household and Business Recycling in England

A consultation on *Consistency in Household and Business Recycling in England* took place in 2021 [6] , aiming to increase the quantity and quality of the packaging collected for recycling. This is to be achieved by having a core set of items collected for recycling regardless of where you live or travel to within England. Devolved governments have strategies and targets which are reflected in different policy objectives and support for increasing recycling. The Scottish government and the Convention of Scottish Local Authorities (CoSLA) has a *Household Recycling Charter* [28] which is currently being reviewed as a *Roadmap to 2025*. Wales has an overarching waste strategy document, *Towards Zero Waste* [50] , and its established *Collections Blueprint* [29] as part of its *Municipal Sector Plan*. The Welsh government is also currently consulting on its own separate collection legislation [15] . Northern Ireland had a waste management strategy, *Delivering Resource Efficiency* [51] , with a view to a new strategy being released in the near future.

Single-Use Plastics

In line with Article 5 of the EU *Single-Use Plastics Directive (EU) 2019/904* [12] , there is an ongoing process to reduce marine litter coming from the most common SUP items. This covers a broad range of items, including plastic cotton buds, cutlery, plates, beverage stirrers, straws and balloon sticks, EPS (expanded polystyrene) 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. This can be done through robust independent Life Cycle Analyses (LCA) and environmental impact assessments.

Item	England	Northern Ireland	Wales	Scotland	EU
Plastic drink stirrers	Existing ban on supply (from October 2020)	No proposals	Proposed ban (no date set)	Ban on supply and manufacture to come into force from 1 June 2022	Existing restriction on supply in Member States (from July 2021)
Plastic stemmed cotton buds	Existing ban on supply (from October 2020)	No proposals	Proposed ban (no date set)	Existing ban on manufacture and supply (from October 2019)	Existing restriction on supply in Member States (from July 2021)
Plastic drinking straws	Existing ban on supply (from October 2020)	No proposals	Proposed ban (no date set)	Ban on supply to come into force from 1 June 2022	Existing restriction on supply in Member States (from July 2021)
Disposable plastic plates	Proposed ban on supply (no date set)	No proposals	Proposed ban (no date set)	Ban on supply and manufacture to come into force from 1 June 2022	Existing restriction on supply in Member States (from July 2021)
Single-use plastic cutlery	Proposed ban on supply (no date set)	No proposals	Proposed ban (no date set)	Ban on supply and manufacture to come into force from 1 June 2022	Existing restriction on supply in Member States (from July 2021)
Balloon sticks	Proposed ban on supply (no date set)	No proposals	Proposed ban (no date set)	Ban on supply to come into force from 1 June 2022	Existing restriction on supply in Member States (from July 2021)
Expanded polystyrene containers (eg, takeaway food and drink containers)	Proposed ban on supply (no date set)	Proposals being consulted on to either: ban; introduce a levy on; or introduce voluntary	Proposed ban (no date set)	Ban on supply and manufacture to come into force from 1 June 2022	Existing restriction on supply in Member States (from July 2021)
Oxo-degradable products (a material where there is ongoing debate and research about how quickly and effectively it degrades to become harmless)	No final decision taken; research ongoing	No proposals	Proposed ban (no date set)	No final decision taken; research ongoing	Existing restriction on supply in Member States (from July 2021)

Variation in Single-Use Plastic proposals across the devolved nations and the EU [10]

RECOUP feels that these policies must be introduced without incentivising alternative packaging formats and materials which may be less sustainable, have a greater carbon impact through its life cycle, or continue to be an issue when it comes to littering. These policy introductions should also be done holistically with others, to complement the range of measures that could also be used to decrease littering and increase the amount of post-consumer plastic waste entering the recycling stream. In 2022, several consultations continued to take place around the banning of single-use plastic items in England, Wales, and Northern Ireland. At the start of 2022, Northern Ireland was obligated to adopt the EU *Single-Use Plastic Directive* [12] as part of the *Northern Ireland Protocol* [11] , whilst Scotland introduced its own single-use plastic ban on 12 August 2022.

There are other dynamics and considerations for the UK.

UK Plastics Pact

The *UK Plastic Pact* [52] is a scheme led by WRAP (Waste and Resources Action Programme) and is made up of retailers, packaging companies and producers, as well as government and non-government organisations (NGOs) that are seeking solutions to generate a plastic circular economy. *A Roadmap to 2025* [54] outlined the ambitions, targets, challenges, and actions required to meet them. The *UK Plastic Pact* aims, by 2025, are:
- Eliminate problematic or unnecessary single-use packaging.
- 100% of plastic packaging to be reusable, recyclable, or compostable.
- 70% of plastic packaging is effectively recycled or composted.
- 30% average recycled content in plastic packaging.

Integrated into the government's legislative changes, this provides a target and incentivisation structure to work towards. RECOUP is working alongside WRAP to provide strategic, practical, and collaborative support to try and ensure collective RECOUP and Pact members work intelligently and logically. This will help to not only meet collective aims, but also avoid negative, unintended consequences centred around moving away from plastic as a material of environmental choice. It will also help in avoiding alternative packaging and material choices that could ultimately increase carbon emissions and be an even greater recycling challenge for the UK.

UK Plastic Recycling Targets

In late 2020, Defra published the packaging waste recycling targets for businesses in 2021 and 2022. These are targets placed on the producer value chain from the polymer and packaging producers through to the retailers.

The business targets for plastic packaging recycling would rise by 2% each year. This was 57% in 2020, 59% in 2021 and **61%** in 2022. In real terms, achieved plastic packaging recycling rates are expected to be lower than this as not all plastic packaging falls within the producer obligation system.

Concessions have not been made for the Covid-19 pandemic and the associated impacts and restrictions, as there has been a fall in the quantity of plastic that has been placed on the market. This will lead to a reduced level of obligated quantities, and with continued use of export markets and developing UK reprocessing infrastructure, the targets for 2022 are likely to continue to be achieved.

Guidance on Environmental Claims

In 2021, the Competition and Markets Authority (CMA) consulted to investigate how businesses are making environmental claims to promote or sell their goods and services and whether consumers are being misled, the results of which resulted in guidance being issued in September 2021 [53] . This guidance includes six core principles environmental claims must be made around, examples of when environmental claims are misleading, what Consumer Protection Law (CPL) requires businesses to do, and what if businesses don't comply with this law (the CMA has powers to tackle practices that hinder consumers' decision-making, including taking businesses to court).

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 evidence to back these claims up.

European and International Policy

Having left the EU, the UK can now make its own policy decisions around how it manages waste and recycling. The UK has broadly adopted several European policies and is in the process of reviewing those held under the *EU Retained Law Bill* [15] for those which will either be adopted, adapted or removed from UK law by December 2023, or 2026 if a delay is agreed. As a result of the UK leaving the EU, the UK is now being treated in the same way as any other Organisation for Economic Co-operation and Development (OECD) country [36] in respect of 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** [55] : 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** [56] : the legislative structure for the management of waste in EU countries, which includes setting recycling and reuse targets.
- **Single-Use Plastics Directive** [12] : aiming to tackle litter coming from identified single-use plastic products and targets to collect drinks containers.
- **European Green Deal** [57] : a set of policy initiatives from the European Commission with the overall objective to make Europe carbon neutral by 2050.
- **Plastic Waste Levy** [58] : an €0.80 per kilogram (€800 a tonne) levy on unrecycled plastic waste as part 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 [59] : changes being made to the requirements for recycled plastic used in food-contact packaging being sold on the EU market.
- Waste Shipping Regulations [60] : amendments to rules around the import and export waste, including contamination tolerances in 'Green List' waste for EU Member States.
- Plastic Packaging Tax(es): proposed taxes in Italy [61] and Spain [62] for plastic packaging that does not contain a set level of recycled content. The tax in Italy was postponed due to the financial impacts on business after the pandemic, and it is now planned to be implemented in 2023.

Basel Convention

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 of this 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.

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* [40] . 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 Polypropylene (PP), Polyethylene (PE) and Polyethylene Terephthalate (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 countries for processing, without meeting strict criteria that ensure it meets regulated end destinations.

Acronyms & Abbreviations

- AD - Anaerobic Digestion
- BPF - British Plastics Federation
- CMA - Competition and Markets Authority
- COP - United Nations Climate Change Conference / Conference of the Parties
- CoSLA - Convention of Scottish Local Authorities
- CPL - Consumer Protection Law
- DAERA - Department for Agriculture, Environment and Rural Affairs
- DDRS - Digital Deposit Return Scheme
- Defra - Department for Environment Food and Rural Affairs
- DIY - Do-it Yourself
- DMR - Dry Mixed Recycling
- DRS - Deposit Return Scheme
- EA - Environment Agency
- EC - European Commission
- EFRA - Environment, Food and Rural Affairs
- EFSA - European Food Safety Authority
- EfW - Energy from Waste
- EPR - Extended Producer Responsibility
- EPS - Expanded Polystyrene
- EU - European Union
- FPOC - First Points of Consolidation
- FSA - Food Standards Agency
- HDPE - High-density Polyethylene
- HGV - Heavy Goods Vehicle
- HMRC - His Majesty's Revenue & Customs
- HWRC - Household Waste Recycling Centre
- kg - Kilograms
- kt - Kilotons
- LARAC - Local Authority Recycling Advisory Committee
- LCA - Life Cycle Analysis
- MBT - Mechanical Biological Treatment
- MRF - Material Reclamation Facility
- NAWDO - National Association of Waste Disposal Officers
- NGO - Non-governmental Organisation
- NIR - Near Infrared
- NPWD - National Packaging Waste Database
- OECD - Organisations for Economic Co-operation and Development
- OEP - Office for Environmental Protection
- OPRL - On-Pack Recycling Label
- ONS - Office of National Statistics
- PERN - Packaging Export Recovery Note
- PE - Polyethylene
- PET - Polyethylene Terephthalate
- PIC - Prior Informed Consent
- POM - Placed on the Market
- PP - Polypropylene
- PPWR - Packaging and Packaging Waste Regulations
- PRF - Plastics Reclamation Facility
- PRN - Packaging Recovery Note
- PTT - Pots, Tubs and Trays
- PVC - Polyvinyl Chloride
- RDF - Refuse Derived Fuel
- RVM - Reverse Vending Machine
- SA - Scheme Administrator
- SI - Statutory Instrument
- SUP - Single-use Plastic
- UK - United Kingdom (England, Scotland, Wales and Northern Ireland)
- WDF - WasteDataFlow
- WEEE - Waste Electrical and Electronic Equipment
- WRAP - Waste and Resources Action Programme

References

1. https://larac.org.uk/
2. https://nawdo.org.uk/
3. https://www.gov.uk/government/publications/25-year-environment-plan
4. https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england
5. https://www.gov.uk/guidance/packaging-waste-prepare-for-extended-producer-responsibility
6. https://consult.defra.gov.uk/waste-and-recycling/consistency-in-household-and-business-recycling/
7. https://www.gov.uk/government/collections/plastic-packaging-tax
8. https://www.gov.uk/government/consultations/introduction-of-a-deposit-return-scheme-in-england-wales-and-northern-ireland
9. https://www.gov.scot/policies/managing-waste/deposit-return-scheme/
10. https://commonslibrary.parliament.uk/single-use-plastic-how-do-bans-differ-across-the-uk-and-eu/
11. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/840230/Revised_Protocol_to_the_Withdrawal_Agreement.pdf
12. https://eur-lex.europa.eu/eli/dir/2019/904/oj
13. https://commonslibrary.parliament.uk/research-briefings/cbp-9638/
14. https://publications.parliament.uk/pa/cm5803/cmselect/cmenvfru/22/report.html
15. https://gov.wales/consultation-separate-collection-waste-materials-recycling-code-practice-wales-html
16. https://www.ecosurety.com/news/fpf-flexcollect-the-uk-s-biggest-flexible-plastic-household-collection-and-recycling-pilot-goes-live/
17. https://ec.europa.eu/commission/presscorner/detail/en/ip_22_7155
18. 18.https://oprl.org.uk/
19. https://recyclass.eu/
20. https://www.pledge2recycle.co.uk/
21. https://compostableuk.info/
22. https://www.gov.uk/government/topical-events/cop26
23. https://unfccc.int/cop27
24. https://www.valpak.co.uk/case-study/plasticflow-2025/
25. https://www.valpak.co.uk/knowledge-hub-post/packflow-covid-19-report/
26. https://www.ons.gov.uk/census
27. https://www.legislation.gov.uk/ukpga/2003/29/contents
28. https://www.zerowastescotland.org.uk/content/charter-household-recycling
29. https://gov.wales/municipal-sector-plan-part-1-collections-blueprint
30. https://www.daera-ni.gov.uk/consultations/Waste-Management-Plan-for-Northern-Ireland
31. https://www.recoup.org/p/346/policy-infrastructure
32. https://www.grocerygazette.co.uk/2022/09/22/lidls-deposit-return-scheme/
33. https://www.polytag.co.uk/pilots/conwy-pilot/
34. https://www.food.gov.uk/business-guidance/regulated-products/food-contact-materials-guidance
35. https://food.ec.europa.eu/news/commission-adopts-new-rules-enhance-safety-recycled-plastics-used-contact-food-2022-09-15_en
36. https://www.oecd.org/about/document/ratification-oecd-convention.htm
37. https://www.pledge2recycle.co.uk/kent
38. https://www.recoup.org/p/418/best-practice-guide-for-uk-plastics-recycling-communications
39. https://npwd.environment-agency.gov.uk/
40. http://www.basel.int/
41. https://www.gov.uk/guidance/importing-and-exporting-waste
42. https://www.gov.uk/government/publications/waste-duty-of-care-code-of-practice
43. https://wrap.org.uk/sites/default/files/2021-03/WRAP-eunomia-financial-cost-of-packaging-litter-phase-2-2021.pdf
44. https://www.gov.uk/government/publications/litter-strategy-for-england
45. https://bills.parliament.uk/bills/2593
46. https://www.theoep.org.uk/office-environmental-protection
47. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1063589/epr-consultation-government-response.pdf
48. https://consult.defra.gov.uk/packaging-extended-producer-responsibility/reforms-to-the-prn-and-pern-systems/
49. https://re-turn.ie/
50. https://gov.wales/towards-zero-waste-our-waste-strategy
51. https://www.daera-ni.gov.uk/publications/delivering-resource-efficiency-northern-ireland-waste-management-strategy
52. https://wrap.org.uk/taking-action/plastic-packaging/initiatives/the-uk-plastics-pact
53. https://www.gov.uk/government/publications/green-claims-code-making-environmental-claims
54. https://wrap.org.uk/resources/guide/roadmap-2025-uk-plastics-pact
55. https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en
56. https://environment.ec.europa.eu/topics/waste-and-recycling/waste-framework-directive_en
57. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
58. https://www.valpak.co.uk/the-eu-plastics-levy-and-its-implementation-across-europe/
59. https://food.ec.europa.eu/safety/chemical-safety/food-contact-materials/plastic-recycling_en
60. https://environment.ec.europa.eu/topics/waste-and-recycling/waste-shipments_en
61. https://www.ey.com/en_gl/tax-alerts/italy-s-plastic-tax-will-enter-into-force-on-1-january-2023
62. https://www.ey.com/en_gl/tax-alerts/spain-introduces-new-indirect-tax-on-non-reusable-plastic-packaging-as-of-1-january-2023
63. https://www.wastedataflow.org/

UK Household Plastic Packaging Collection Survey 2022

1 Metro Centre
Welbeck Way
Woodston
Peterborough
PE2 7UH

T | 01733 390021

E | enquiry@recoup.org

W | www.recoup.org

RECOUP

Registered in England & Wales number: 02435729
VAT registration number: 546 5837 10
Registered Charity Number: 1072029
RECycling Of Used Plastics (RECOUP) Limited