RECOUP

UK Household Plastics Collection Survey 2020

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

UK HOUSEHOLD PLASTICS COLLECTION SURVEY

2020

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

The content and analysis contained in this document is based on the information received. While every effort has been made to ensure the accuracy of the contents of this report, RECOUP cannot accept any responsibility or liability for any errors or omissions. Opinions expressed and recommendations provided herein are offered for the purpose of guidance only.

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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 our activities, and we are committed to securing sustainable, circular and practical solutions for plastic resources both in the UK and worldwide.

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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 aim of the Survey is to assist in developing sustainable plastic collection and recycling solutions across the UK.

All Local Authorities in the UK are surveyed in an online questionnaire about many key areas affecting their operations, whether it be borough, district, city or county councils or waste partnerships. Utilising these distinct, but inter-connected areas, the ***Survey*** provides a comprehensive review of the collection of household plastics for recycling in the UK, and the challenges and opportunities facing Local Authorities and waste management providers.

The ***Survey*** is supported by the Local Authority Recycling Advisory Committee (LARAC) and the National Association of Waste Disposal Officers (NAWDO), which is invaluable when collecting data and reporting the results.

2020

In 2020, the impact of the COVID-19 pandemic has affected all walks of life, in all corners of the globe. This has unavoidably had a significant impact on the plastic supply chain.

Whilst this year's ***RECOUP Survey*** primarily focuses on data from 2019, March 2020 onwards saw widespread and significant changes to the way in which organisations and Local Authorities operated, and in a number of cases prevented them from operating at all.

Also, on the agenda has been the UK's process of leaving the EU which continues to create uncertainty for businesses, importers and exporters, and the devolved administrations, especially in Northern Ireland. At the time of this report being written, the understanding is that the UK will have transitioned, either with or without a deal, by the end of 2020. This itself has been impacted by the pandemic, as well as the UK Government elections taking place in late 2019.

Despite the disruption, Government plans around the various consultations have largely gone ahead as scheduled. These include: Reforming the ***UK Packaging Producer Responsibility System*** [1] and use of ***Extended Producer Responsibility***(EPR) [2], ***Consistent Collections in England*** [3] for household and business collections, Introduction of a ***Plastic Packaging Tax*** [4] to incentivise the use of at least 30% recycled content in plastic packaging, and Introduction of ***Deposit Return Schemes*** [5] (DRS) for drinks containers in England, Wales and Northern Ireland from 2023, and Scotland from 2022.

Each piece of proposed legislation has been discussed in 2020, with examples of delays and extended consultation periods seen. Government, industry and the general public have shown commitment to ensuring these implementations can take place as planned, in a way that has a fair and positive impact on the plastic supply chain and, in a wider sense, the environment. These consultations seek to transform the future governance, structure and funding of how the UK manages packaging waste, and meet the commitments in the ***25 Year Environment Plan*** [6] and ***Resources and Waste Strategy*** [7].

Each year, the Survey reports on: Local Authority collections; changes to plastic collection services; the political and regulatory environment around plastics and plastic recycling; and, the impact of litter, waste and disposal 'On-the-Go'.

In the 2020 Survey, focus has also been given to import and export markets, as well as the wider issues of waste crime, litter and fly-tipping. These are areas which need addressing to ensure that the public can have confidence in the environmental efforts of the plastic supply chain.

With the significant challenges in 2020, specifically around the impact of both COVID-19 and Brexit, it is essential that a 'green recovery' takes place, and that economic factors do not cause the UK, and indeed the rest of the world, to lose sight of the environmental issues that we face into the future.

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Message to Local Authorities - Thank You!

With the UK's continued focus on addressing the challenges of plastic waste, the responses from Local Authorities and waste management providers each year are increasingly important.

We would like to thank the many Local Authority waste management and recycling scheme staff and their service contractors who took the time to respond to the ***Survey***. Their continued support helps to make the research that forms the core data both comprehensive and worthwhile.

RECOUP tracks its readership, which reflects the wider interest in the environmental debate. 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 (NGO).

Data and views in this report will feed directly into waste management and resource strategy development. This includes consultations, advisory groups and discussions, and be viewed by industry, decision makers, and the wider media on a global level.

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

RECOUP would like to acknowledge this support and the influence it has, which is invaluable when collecting data and reporting the results.

Thank you to the following waste management companies and Local Authorities for their continued support of RECOUP through membership.

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DATA SUMMARY

Plastics Packaging Placed on the Market

- **New** estimates from the *Valpak PackFlow Covid-19 Phase I: Plastic* report a **3% decrease** of plastic packaging Placed on the Market.
- **2,290,000 tonnes** of plastics packaging Placed on the Market. Of this:
  - **1,447,000 tonnes** consumed by households.
  - **643,000 tonnes** plastic bottles.
  - **494,000 tonnes** of plastic pots, tubs and trays, including **194,000 tonnes** of 'other' plastic packaging.
  - **311,000 tonnes** of plastic film.
- Further revised Placed on the Market data for 2020 to 2022 to account for impact of COVID-19.

Household Plastics Packaging Collection Data

- **560,000 tonnes** collected for recycling – an overall **increase of over 2%**.
- **377,000 tonnes** of plastic bottles, **6,000 tonnes more** than in 2018.
- **161,000 tonnes** of plastic pots, tubs and trays, **4,000 tonnes more** than in 2018.
- **22,000 tonnes** of plastic film, **1,000 tonnes more** than in 2018.
- An increase in **excess of 20%** of recycling was collected by Local Authorities in the first lockdown period in 2020.
- Composition of plastic packaging collected for recycling is:
  - **67%** for plastic bottles.
  - **29%** for pots, tubs and trays.
  - **4%** for plastic film.

UK Plastics Packaging Recycling Data

- **1,135,000 tonnes** of plastic packaging declared as recycled from all sectors in 2019, this is a recycling rate of **just under 50%**.
- The remaining **1,155,000 tonnes** not collected for recycling goes to landfill or energy recovery.
- **61%** (688,000 tonnes) was exported and **39%** (447,000 tonnes) recycled in the UK.
- Plastic packaging collected from households accounts for just **over 49%** of the UK's total recycled plastics.

Household Plastics Packaging Collection Rates

- **59%** for plastic bottles.
- **33%** for plastic pots, tubs and trays.
- **7%** for plastic film.
- Overall – **39%**.

Actual Recycling Rates

- Collection data does not reflect actual recycled material quantities.
- Sorting and reprocessing yield losses mean Material Recovery Facility (MRF) input quantities are between **15% to 50% higher** than the reprocessing output quantities.

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Kerbside Plastics Collection Service Provision

- **382** Local Authorities in the UK in 2019.
- All Local Authorities (**100%**) provide a kerbside recycling collection service that includes plastic bottles.
- **325** (**85%**) Local Authorities collect plastic pots, tubs and trays. This is an **increase of 4%** on 2018.
- **55** (**14%**) Local Authorities collect plastic film. This is a **decrease of 2%** on 2018.
  - **23** of the 55 Local Authorities who collect plastic film **only accept carrier bags**.
  - 2019 was the **3rd consecutive year of decline** in Local Authorities collecting plastic film.
- **53** (**14%**) Local Authorities collect plant pots. This is an **increase of 4%** on 2018.

Performance Rate – Average Collection Rates per Household per Year

- **13.65 kg** of plastic bottles collected per household (out of an average of **23.13 kg** Placed on the Market).
- **5.69 kg** of plastic pots, tubs and trays collected per household (out of an average of **17.77 kg** Placed on the Market).
- **0.78 kg** of plastic film collected per household (out of an average of **11.19 kg** Placed on the Market).
- There is a total of **20.12 kg** of plastics packaging collected per household (out of an average of **52.09 kg** Placed on the Market).

Facts & Statistics

- Over **14 billion** plastic bottles are used each year in the UK. That's almost **39 million** plastic bottles every day – **1.4** bottles per household.
- Nearly **8.3 billion** plastic bottles were collected for recycling in 2019. That's almost **23 million** bottles every day.
- Nearly **5.9 billion** household plastic bottles were not collected to be recycled from UK households in 2019. That's over **16 million** plastic bottles every day.
- Average UK households use **520** plastic bottles a year, but only recycles just over **300** of them. Around **200** bottles are not collected for recycling.
- **425 tonnes** of plastic bottles were collected for recycling in 1994. Since then almost **95 billion** plastic bottles have been collected. That's over **4.3 million tonnes** collected for recycling.
- **9,000 tonnes** of plastic pots, tubs and trays were collected in 2007 when data collections levels were first reported, and this is now **161,000 tonnes** annually. Since then, **1.5 million tonnes** have been collected for recycling.

Local Authority Priorities for EPR Funding

- Local Authorities reported that **funding collections** and **investment in infrastructure and capacity** (material sorting facilities) were their priorities.
- **Developing communication strategies** was seen by some to be the top priority, with **cost of complying with new regulations** and **developing new markets** less important.
- **Retaining funds for future investment** was widely reported as low priority.
- **27%** of Local Authorities reported they had success in improving performance of their collection services.

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Recycling Wheel Bin Colours

- **75%** of Local Authorities use wheel bins to collect plastic for recycling at kerbside.
- Blue (**33%**) was the most common wheel bin colour, followed by green (**20%**).
- The other more commonly used colours were brown, grey, black and burgundy. This was **19%** of Local Authorities.
- Lesser reported colours, such as silver, red and purple, accounted for **4%**.
- The remaining **25%** was made up of mixed colour bins (e.g. different coloured lids to the main bin). The most popular body colours were green and black.

Food Waste Collections

- **59%** of Local Authorities collect food waste from households separately from general waste.
- Of these, **44%** have a dedicated food waste collection.
- The remaining **15%** collect food waste co-mingled with other organic waste (i.e. garden waste).
- In Scotland, **94%** of Local Authorities offer a food waste collection. In Wales and Northern Ireland this is **100%**.

Co-mingled vs Source Separated Collections

- **53%** of Local Authorities collect materials co-mingled with **47%** using some form of source separated collections (e.g. separate glass, paper).

Treatment of Residual Waste

- The treatment processes reported for general waste were: **59%** energy from waste (EfW), **38%** landfill, **25%** refuse derived fuel (RDF), **25%** mechanical biological treatment (MBT), **17%** recycling and **14%** anaerobic digestion (AD).
- **27%** of Local Authorities reported that they actively investigate or recover recyclables from their residual waste stream.

Litter & Collection 'Away from Home'

- **67%** of Local Authorities reported fly-tipping to be a greater concern in their area than litter.
- Of those who believed they knew the source of fly-tipping in their area, **66%** of Local Authorities reported that it was primarily from domestic sources. **34%** reported it being from commercial sources.
- **74%** of Local Authorities felt they were “predominately free of litter and refuse". **26%** reported “widespread distribution of litter" and/or "refuse with minor accumulation”.
- **47%** of Local Authorities provide recycling 'On-the-Go' collection units in public spaces.
- From Local Authorities not providing a recycling ‘On-the-Go’ scheme, **82%** cited an expectation of high contamination levels, **30%** stated costs, **10%** operational and logistical challenges to delivering the service.
- **44%** of Local Authorities faced budget cuts for providing waste and recycling services in 2019.

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Waste Crime

- On 1 January 2021, the ***Basel Convention*** will be amended to strengthen the controls for the export of waste plastics by changing the coding for plastic waste exports. It is not clear at this stage how this will impact exporters of material from the UK.
- There are a number of factors to be considered when making the distinction between what can be considered high-quality and what is less attractive plastic recycling material. There are generally considered to be three types of exported material – **the good, the bad and the ugly**.
- The UK's **Waste Compliance Taskforce (WACT)** launched in October 2020, heralding a new way of working together to tackle one of the waste and recycling sector's biggest issues. WACT provides a forum for **collaborative, cross-sector working** to: improve understanding of and compliance with waste regulations, increase resilience to waste crime, and engage with environmental regulators to support more effective ways to prevent and tackle waste crime.

Household Recycling Infrastructure

- There are **110 MRFs** in the UK that have the capability to sort household plastic packaging from other material streams.
- The UK has a MRF capacity to sort around **1,600,000 to 1,900,000 tonnes** of plastic packaging from household and commercial sources each year, with actual throughput of **825,000 to 1,000,000 tonnes**.
- There are **7** Plastic Recovery Facilities (PRF) in the UK that sort plastic packaging.
- The estimated PRF operational sorting capacity is approximately **350,000 tonnes**.
- There are **16** reprocessors in the UK that manufacture washed flake derived from household plastic packaging.
- The UK's reprocessing capacity is estimated to be approximately **440,000 tonnes**, with an estimated current actual operational output of **230,000 tonnes**.
- There are challenging commercial conditions and fine profit margins in the reprocessing sector, this is the greatest barrier to producing recycled plastic the UK.
- Local Authorities are planning to **expand their waste management infrastructure**, which is largely focused on energy from waste (EfW) and Household Waste Recycling Centres (HWRC) facilities.
- **Chemical Recycling** is cited as a future solution for hard to recycle plastics and it should be used to complement current mechanical recycling, not to replace it. Commercialisation of chemical recycling to produce fuels is imminent, but chemical recycling back to polymers to use as feedstock to produce new products on a commercial scale is 5-10 years away.

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Recycled Plastics Markets

- REB News article states: *"The story of 2020 for the recycled plastic market has not been COVID as such, but the Packaging Recovery Note* (PRN) *and Packaging Export Recovery Note* (PERN)*"*.
- There is still a heavy reliance on export markets, but it remains a challenge to audit market flows and precise end destinations and **transparency** about end destinations of exported materials should be high on the agenda as the UK shapes its strategy for the future.
- Data from REB News shows reduced quantities going to Hong Kong and Malaysia in 2020 and the **increasing reliance on Turkey**. In late 2020, **restrictions** on the import of plastic waste were announced in Turkey, and this will disrupt the volatile export market even further.
- Complexities around PRNs and their favourability towards exporting materials mean that foreign markets are often more financially viable. PRN prices fell from highs of over **£400 per tonne** in August 2019 to just **£10 per tonne** in October 2020. These extremes highlight the complex and potentially volatile nature of export markets and how reform the packaging producer responsibility system needs to control and stabilise any future version of PRNs.
- PRN prices in 2019 averaged at around **£250 per tonne**. These **ranged from £105 to £465** across the year.
- In the first half of 2020, around **64%** of the UK's plastic packaging was exported for recycling. For a number of years this has been around **60%**.
- RECOUP's *Plastics Sorting & Reprocessing Infrastructure* report estimated that if the export market was not available to recycle household plastic packaging, the current UK reprocessing infrastructure would need to increase by **165%** to meet demand.

Behaviour Change & Consumer Communications

- **46%** of Local Authorities reported they were planning a communication to householders about plastics recycling.
- Of those not planning a campaign about plastics, over **60%** said this was due to their authority taking a broader approach to communicating with residents about all dry recyclables. A total of **40%** primarily cited cost and resources for not planning a campaign.
- **82%** have communicated or are currently communicating with residents on the importance of reducing contamination and how to present plastics for recycling.
- The main focus for communications to residents is **reducing contamination (57%)** followed by **increasing collection rates (31%)**.
- **22%** of Local Authorities ask residents to keep lids on plastic bottles at disposal. **29%** ask residents to remove lids, **3%** state either is acceptable, and **46%** have no clear message either way.
- **57%** of Local Authorities ask residents to empty and rinse plastic packaging before disposal. **43%** had no clear message.
- **36%** of Local Authorities ask residents to flatten and squash bottles before disposal. **62%** no clear message, and **2%** specifically ask residents not to squash bottles.
- **5%** of Local Authorities use polymer codes to communicate to residents around what plastics can and cannot be recycled at kerbside.

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Pledge2Recycle Plastics

- RECOUP's national plastics recycling initiative, ***Pledge2Recycle Plastics***, works to reduce the confusion about plastics recycling and improve citizen knowledge of plastics as a resource.
- A **FREE** resource pack is available to provide Local Authorities, businesses and educational establishments with content to help citizens be more confident when recycling. This can be downloaded alongside other resources from www.pledge2recycle.co.uk.
- Several ***Pledge2Recyle Plastics*** campaigns have been delivered. These have centred around '***cutting the confusion***' of plastics recycling and educating the consumer about the recycling journey. Campaigns have included community roadshows, student design challenges and fashion shows.
- Ongoing activities include citizen engagement projects, social media and a newsletter to Local Authorities.
- Social media campaigns in 2020 included #dontthrowonthego and #stopitdontdropit anti-litter messaging, and there is a full social media plan for 2021 to interact with.
- To understand where consumers are confused, RECOUP undertook an observational study called ***Watch Me Think.*** Citizens recorded themselves recycling and critiqued their own behaviours. The report can be downloaded from the ***Pledge2Recyle Plastics*** website.
- Through the ***Survey***, **60%** of Local Authorities stated they would be interested in a match funded arrangement with Pledge2Recycle Plastics to deliver a plastics education and communication campaign to residents in 2021.
- Please get in contact if you are planning a plastics communication in 2021 as the Pledge team would like to help wherever possible.

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Policy & Regulation

- The political and regulatory environment around plastics packaging is an area of continually heightened interest and the landscape could change rapidly both in the UK and Europe.

UK

- 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 new targets rise by 2% each year, from 57% in 2020 to 59% in 2021 and 61% in 2022**.
- In 2020, consultations on the proposed *UK Plastic Packaging Tax* took place, with the Government response released in November. This is set to tax plastic packaging that does not include **30% recycled content** at **£200 per tonne**, with limited exemptions.
- Key principle of the *UK Packaging Producer Responsibility System* and use of *Extended Producer Responsibility* (EPR) is to fund the full net cost of managing the collection, transport, sorting, reprocessing and disposal of used packaging. This should also help fund consumer communication campaigns and clean-up costs of littered and fly-tipped packaging.
- Scotland announced plans to delay the implementation of its Deposit Return Scheme (DRS) until **July 2022**.
- The Welsh Government issued a consultation which closed in October 2020 in line with *Article 5 of the EU Single-Use Plastics Directive* (EU) 2019/904 to tackle marine litter coming from the most common single-use plastic products. Scotland issued a similar consultation which closes in **January 2021**.

BEYOND THE UK

- The vision, commitments and measures of *Europe's New Plastics Economy* are outlined in the *European Commission's (EC) European Circular Economy Package*.
- The *EC's A European Strategy for Plastics in a Circular Economy* is part of the EU's *Circular Economy Package* and addresses the high dependency on virgin fossil feedstock, low rate of recycling and reuse of plastics, and the leakage of plastics into the environment.
- The *European Union's (EU) Waste Framework Directive* is the legislative structure for the management of waste in EU countries. The Directive set targets to **reuse or recycle 50% of household waste by 2020**. Future targets are set at r**ecycling 60% of municipal waste, 70% of packaging waste and 55% of plastics packaging by 2030**.
- The *Single Use Plastics Directive* aims to tackle marine litter coming from 10 identified single use plastic products. It targets **77% of plastic bottles to be collected for recycling by 2025, and 90% by 2029**.
- The EU has announced a *Plastic Waste Levy* on its member states for plastic packaging that goes unrecycled. This is to be set at **€0.80 per kg from January 2021**. The estimated €6-8 billion raised through this levy will go to the EC as part of the *Coronavirus Recovery Fund*.
- With the UK having left the EU and the transition period to have been completed by the end of 2020, it is still to be confirmed whether the UK will adopt European measures that would set ambitious aims around resources and recycling to 2025 and beyond, or develop alternative resource and recycling legislation and ambitions for the UK.

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RECOUP OPINION - STEVE MORGAN

On 2 December 2020, Sir David Attenborough spoke to the UN Secretary-General, António Guterres, to issue an urgent call to action about the climate crisis. Sir David's message summarised how climate change debate began and where future action needs to be focused. With the pandemic affecting just about everything we know, there have been loud calls for a 'green recovery'. However, there are questions about what this looks like and how it can be translated into tangible actions with sustainability at the heart of it.

Commercial incentives and strong commitments are needed to reduce carbon emissions and embed environmental sustainability into all areas, but there are significant commercial realities and barriers as businesses and livelihoods fight to exist. With significant challenges associated with both COVID-19 and Brexit, it is essential economic factors do not lose sight of the environmental issues that we face.

Taking a broad view of this, the Sustainable Development Goals (SDGs) were set up in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030. They have been described as a ***"blueprint to achieve a better and more sustainable future for all"*** [8] by addressing challenges on a global level.

There has been many commitments and public statements, such as:

> *"It started off and people thought it was just cranky, it was just people who were tree huggers. Now we can see our very lives depend upon finding solutions to these problems. The solutions can only come today from international action.*
>
> *"We need a triumph somewhere soon where we can really demonstrate that nations have come together, have got a policy which is internationally agreed and which can take action."* [9]
>
> **Sir David Attenborough**

In May 2020, over 60 CEOs of major businesses and organisations operating in the UK issued a letter to the Prime Minister [10], asking for nature and climate to be put at the heart of the nation's recovery.

In addition, in the largest ever United Nations-backed CEO-led climate advocacy activity, 155 global corporations urged world leaders to achieve a zero-carbon economy after COVID-19, calling on Governments to ***"prioritise a faster and fairer transition from a grey to a green economy"*** [11].

The UK is also now supporting plans for a new global agreement, with 80 countries signing a Leaders' Pledge for Nature in September 2020 [12] that includes a 10 point pledge to commit to meaningful actions to ***"put nature and biodiversity on a path to recovery by 2030"***. It is anticipated that this could be a UN treaty, similar to the Paris Agreement on the climate crisis.

In terms of legislation the EU will also introduce a levy on plastic waste from January 2021 as part of a €750 billion coronavirus recovery fund agreement.

There are many goals that relate to how we manage our world and how we treat our resources – and critically how we as citizens relate and react to both. On a practical and personal level could encourage lifestyle changes and responsible consumption which directly affects the production of materials and manufacture of products.

On a materials recycling level, there is a need to incentivise and develop material supply chains and the associated waste and recycling infrastructure to underpin circular economy models, particularly around the benefits, use and circularity of plastics.

In the spending review by the Chancellor in November 2020, the National Infrastructure Strategy [13] confirmed that costs of processing packaging waste will be transferred from Local Authorities to packaging manufacturers and sellers, helping to create and support up to 250,000 green jobs.

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This is being done through the reform of the UK Packaging Producer Responsibility System, or Extended Producer Responsibility (EPR), which should cover the full net cost of managing all aspects of waste management whilst also funding communication campaigns and the clean-up costs of littered packaging. There are also monetary reforms such as the Plastic Packaging Tax.

These reforms could be a game changer in managing used plastic packaging effectively. If these legislative changes are well designed, imagine what could be delivered?

- Consistent collection of materials in kerbside and 'Away from Home' schemes – and how citizens should present items for recycling.
- Effective implementation of new collection schemes (e.g. Deposit Return Schemes, WEEE, etc.) and a suite of take back systems for items that cannot be collected kerbside.
- Delivery of adequately funded communication and behaviour change programmes.
- Use of packaging eco-modulation to incentivise design for recycling and stop replacing plastic packaging with packaging with less environmentally sound alternatives.
- Building and maintaining effective material sorting and reprocessing infrastructure.
- The ability to control and stabilise any future version of Packaging Recovery Notes (PRN) and to be transparent about where and how they are used.
- The right controls and incentives to stop export of poor-quality material.
- Transform recycling end markets and use of recycled content.
- Stop leakage into the natural environment of all items and microplastics.

The list could go on. However, EPR is likely to be at least 3 years away and how is any meaningful green recovery going to happen in the meantime without the foundations in place? Time only will tell, but we do now have the opportunity to reset, reposition and reclaim progress that could have already been made, and everyone can have an active role.

Through your own organisations and those like LARAC, NAWDO and RECOUP, we have the opportunity to put the next two to three years to very good use. Through various consultations and dialogue, we can help shape well designed systems in the UK that have meaningful positive environmental outcomes and support the global commitments we have been eager to aspire to and achieve.

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RECOUP – OUR ROLE

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 our activities. We are committed to securing sustainable, circular, and practical solutions for plastic resources, in the UK and worldwide.

Our vision is to **lead and inform** the **continued development** of plastics recycling that is **sustainable** and **protects resources**.

Unprecedented Times

Despite the ongoing impacts of COVID-19, the long-term ambitions around plastic resources remain very relevant and necessary. We are all part of a much bigger picture where significant action is needed to protect the environment for the benefit of all. The Government rhetoric is that the UK will build back better with green industrial development at the heart of future plans. We have the opportunity now to become a world leader in plastic resource management and recycling. By supporting RECOUP, you can help make this happen.

RECOUP covers all plastic formats, sectors and parts of the value chain. With so much opinion and greenwash around environmental issues, RECOUP continues to base its work on evidence, research, facts, independence, and integrity.

Plastics as a Resource, Green Growth and Circular Economy

There is demand for change. Clearly it can't be right to allow plastics to leak into the environment, but neither is it acceptable to lose the opportunity to use plastics where it is the most cost and carbon effective material for so many applications. Restricting the use of plastics in applications which are genuinely unnecessary and represent significant environmental impact must also be embraced.

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 are collectively stepping up to the challenge of a plastic circular economy.

Membership of RECOUP can give Local Authorities access to a wealth of technical information on plastics to enable a greater understanding of the complex issues at each point of the value chain, thus assisting Local Authorities looking to future proof service provisions. It is important that the practical business case for maintaining and increasing plastics recycling is robust, and it is evident from RECOUP's membership, that more companies recognise and support the valuable work of RECOUP in achieving these aims.

RECOUP aims to assist its Local Authority and waste management company members in:

- **Stakeholder engagement including the RECOUP Conference.** The 2019 Conference welcomed over 500 delegates. Whilst the plans for the 2020 Conference were postponed, it will be back, bigger and better than ever in 2021 with considerable content for Local Authorities and waste management companies. It is **FREE** for Local Authorities to attend.
- **Understanding the supply chain.** For example, to maximise recycled material value and increase knowledge of end markets. It is increasingly important for citizens to be reassured that what is claimed as being placed for recycling, is being recycled.
- **Packaging recyclability testing.** Providing plastic packaging design guidance and assessing recyclability credentials, ensuring synergy in collection, sorting and recycling. This helps to ensure accurate communications to residents.

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- **Cross-sector collaborative initiatives.** To work across the supply chain to collect and recycle post-consumer plastics, bringing together brand owners, reprocessors and Local Authorities to deliver practical initiatives that benefit the supply chain.
- **Bespoke research and innovation projects.** Focusing on specific areas of the supply chain, such as: DIY and gardening products, toys, small items, beauty and personal care.
- **Communicating the message.** Using the *Pledge2Recycle Plastics* resources to ensure messaging reduces citizen confusion on what and how to recycle plastic at kerbside, thus inspiring positive behaviour change.
- **Plastic pots, tubs, trays and films.** RECOUP has specific areas that research and deliver activities to develop collections and recycling of these plastic formats.

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 us to cover the costs of completing the *2020 RECOUP Survey*.

Governance

RECOUP is underpinned by the strength of its team and its trustees. The RECOUP Board meets on a regular basis to represent their sector and develop RECOUP's strategy and direction. Trustees are all Senior Managers and Directors, and their expertise and knowledge of the sector ensures that the financial and operational activities of RECOUP serve the best interests of the plastics value chain.

RECOUP continues to have a strong Local Authority and waste management presence in its membership, with LARAC, NAWDO and some of the largest waste management companies in the UK represented on the RECOUP Board.

RECOUP Conference 2021

The *RECOUP 2020 Conference* was postponed due to COVID-19 restrictions. Instead, a series of webinars were held for both RECOUP members and non-members to provide a platform for knowledge share.

RECOUP

Plastics Recycling and Resources Conference

30 SEPTEMBER 2021

KingsGate Conference Centre, Peterborough, UK

For the *2021 Conference*, Tom Heap, from BBC Countryfile and Radio 4's Costing the Earth, will be moderating.

Thanks to Berry who are headline sponsors of the *RECOUP 2021 Conference*.

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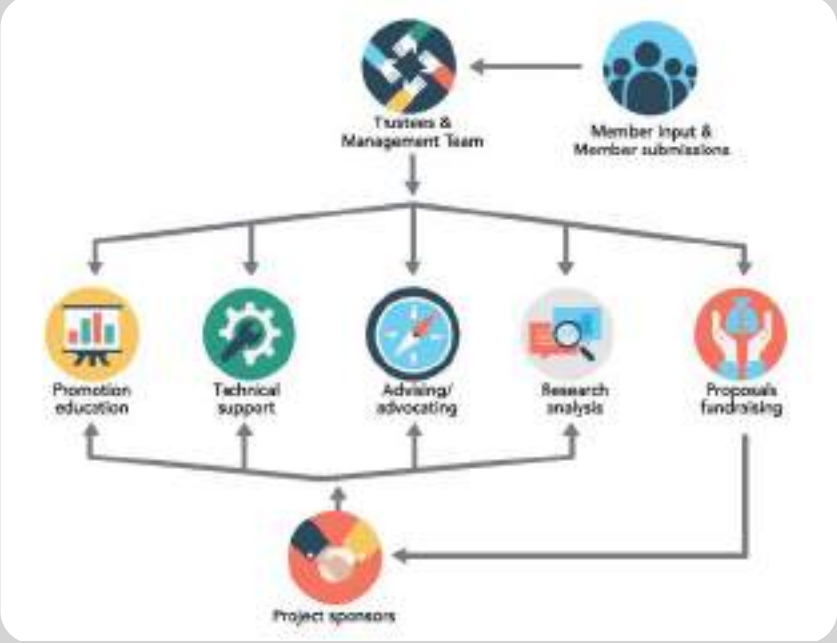
A *pre-Conference* networking dinner will be held at:

The Holiday Inn, Peterborough
Wednesday 29th September, 2021.

The *Conference* and *pre-Conference* are open for registration on the RECOUP website at: www.recoup.org



METHODOLOGY & REPORTING

The approach taken to collect the data and how it is calculated is important in understanding what can be reported and how these figures are generated and used.

Plastic Packaging Placed on the Market

The quantity of plastics packaging that is Placed on the Market (POM) is an essential figure in measuring the UK's plastic packaging collection rates. RECOUP always uses the most robust data available, which for the ***2020 Survey*** is from the ***Valpak Covid-19 Reports*** [14], an update of ***PlasticFlow 2025*** [15]. Following revisions in 2020, these reports estimate the quantity of plastic packaging POM in the UK until 2022.

Calculating Estimated Collection Quantities

The challenge of estimating the composition of reported household plastic collection data into plastic formats needs to be highlighted. This is due to several factors including the co-mingling of materials, variations in collection methods and supply into onward recycling streams.

Collection quantities cannot be calculated by adding up sequentially reported tonnages as there are many variables that can affect the reported collection quantities. Accurate and audited estimated collection data is reliant on the necessary resources and processes in place, and these vary by Local Authority.

The reported collection data and service provision data provided by Local Authorities is always checked, and where necessary followed up. Varied methods are also used to ensure that the final dataset is as accurate and representative as possible.

Dry Mixed Recycling (DMR)

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

Plastics Packaging Only

Any plastic packaging only quantities are reported by: Local Authorities operating source separated collection schemes, a percentage estimate based on compositional analysis by the Local Authority or waste management provider, or the specific percentage composition recommended to be used by WasteDataFlow [16]. It is often not possible for Local Authorities to provide plastics collection quantities broken down by plastic format. Like DMR, percentage averages dependent on the variety of plastic formats collected in that individual scheme, are used to estimate these.

Multiple Collection Schemes

Local Authorities can report collection quantities from all services they provide, including from kerbside and bring collections (e.g. retailer front of store plastic film schemes), recycling 'On-the-Go' schemes and Household Waste Recycling Centres (HWRC). Many of these schemes' bins are serviced as part of the kerbside collection route, and this is accounted for when calculating collection quantities.

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Composition of 'Mixed Plastics'

Plastics packaging is often reported as 'mixed plastics', and clarification is often needed on the different interpretations and composition of this fraction. Compositions can vary considerably between Local Authorities depending on the target outputs and the efficiency of the Material Recovery Facility (MRF). Some facilities only segregate certain plastic bottles like clear PET and natural HDPE bottles, and leave others in with the plastic pot, tub and trays (PTT) or 'mixed plastics'. These then go for further sorting or even export. Other facilities can leave all plastics 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.

RECOUP has received confidential data from its waste management company members in order to estimate the composition of collected plastic to provide the best possible and most realistic representation of the data.

Limited or No Collection Data Reported

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

Collection Service Provision

The criteria for Local Authorities providing a service is if they communicate to their residents that they collect certain plastic formats or products as target items. There are plastic formats or products that can be accepted by the waste management provider sorting facility but that are not target items. In these instances, the Local Authority is categorised as not providing a collection scheme. This research is based on two methods: the actual responses from the ***Survey*** questions by Local Authorities, and cross-checking of each Local Authority's website to see what collection service provision is communicated as being provided. Conflicting information can occur, and in these instances further research and investigation is carried out to clarify results.

Confidence Interval

Although a high proportion of the data and analysis in ***RECOUP Surveys*** are based on actual responses only, 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: types and quantity of other materials collected, types of locations (urban or rural), housing types, socio-demographics, and how the scheme is communicated to residents.

All data is analysed to provide a high probability confidence interval i.e. data considered to be incorrectly reported is omitted or re-estimated using appropriate available data and averages.

Response Rate

The response rate of collection authorities responding to the ***Survey*** is usually around 75%, with some responding to more questions than others.

The response rate was lower this year, which was expected due to current circumstances with the COVID-19 pandemic. Collection quantities are based on data and information either for the 2019 calendar year, or 2019-20 financial year. Data for those that have not responded is calculated through previous ***Survey*** responses and average performance data.

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PLASTICS COLLECTION SERVICES

Collection is the foundation to recycle plastics, ensuring it is kept within circular economy models and not littered. The RECOUP Survey provides a comprehensive review of the service provision by Local Authorities to collect household plastics from kerbside, bring, recycling 'Away from Home' and Household Waste Recycling Centres.

As required by the ***Household Waste Recycling Act 2003*** [17], 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. One possible key change regarding collection provision is the proposed introduction of Deposit Return Schemes (DRS), due to be first launched in Scotland in July 2022 (postponed from the originally planned date of April 2021) [18]. The rest of the UK is expected to follow Scotland's lead in 2023 [19]. Another is the potential inclusion of plastic film as part of a wider consistent recycling programme in England.

Consistency of material collections is a major strategic theme to increase recycling levels and improve collected material quality. There is a great deal of focus on the opportunities to standardise materials in terms of the collection systems used, the materials collected for recycling, and how they are presented for recycling.

Within the UK, the devolved administrations have their own guidance. The Scottish Government and the Convention of Scottish Local Authorities (CoSLA) have a ***Household Recycling Charter*** [20], Wales has its established ***Collections Blueprint*** [21], Northern Ireland's is through its ***Waste Management Plan*** [22], and Defra will be further consulting, in 2021, on delivering consistency in household and business recycling collections in England [23].

Local Authorities in the UK

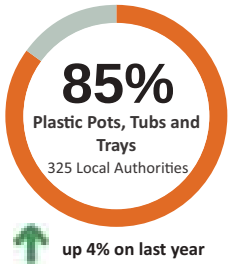
There are **382** Local Authorities in the UK, all of whom collect some form of plastic in kerbside collections from households:

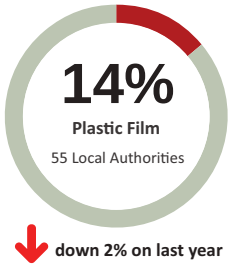
- **317** in England.
- **32** in Scotland.
- **22** in Wales.
- **11** in Northern Ireland.

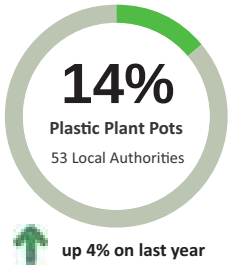
The total number has reduced from 391 in the ***2019 Survey*** due to multiple instances of Local Authorities merging in England.

Kerbside Collection Schemes

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







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Plastic Bottles

The *2019 RECOUP Survey* saw 99.7% of Local Authorities in the UK collecting plastic bottles from kerbside. However, in September 2019, the UK hit the **100%** milestone, the final Local Authority adding plastic bottles to their kerbside collections service.

Plastic Pots, Tubs & Trays (PTT)

85% of Local Authorities now accept PTT as part of their kerbside collection schemes. This is up from 81% recorded in the *2019 Survey* and marks the tenth consecutive annual increase in this collection provision.

This annual increase can be attributed to both strategic and consumer pressure to drive towards consistent material collections. Of those who responded as to why they are not currently collecting PTT, **17** (**81%**) said it was due to existing contracts. PTT can typically be added to a collection scheme when waste management contracts are renewed, and a collective approach is taken as part of a waste partnership.

Polypropylene 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 put in place the building blocks to develop recycling solutions and end markets, and this is particularly true for this material stream.

Plastic Film

The number of Local Authorities collecting plastic film as part of their kerbside collection service has once again seen a decline, with only **14%** now accepting this provision compared to 16% in the *2019 Survey*. Film can include items such as plastic carrier bags, bread and cereal bags, cling film, bubble wrap, magazine wrap and shrink wrap (to package multi-pack products such as drink containers, tinned food and toilet paper). Of the **55** Local Authorities collecting film in the *2020 Survey*, **23** only accept carrier bags, and **1** only accepts bubble wrap. The remaining **31** Local 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 no bubble wrap or no cling film.

RECOUP has found significant variations around Local Authority collections of plastic film, and the associated messages. For example, in instances where dry recyclables are collected 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. There are also possible differences where a Material Recovery Facility (MRF) may be able to accept or sort plastic film, but the Local Authority may not communicate this to residents. This is due to the challenges the resulting increased quantity of film would create for material sorting, greater risk of contamination of other recyclables and recycling end market availability.

The Plastic Film Dilemma

The decline in the number of Local Authorities collecting plastic film can be attributed to multiple factors, including:

- The complex decision-making process needed by the consumer on whether to place the various types of plastic film into their recycling, causing them to make incorrect decisions and increase contamination levels.
- The practical barriers which prevent film being compatible with many existing UK collection and MRF systems, contaminating established plastic bottle bales and paper lines, and risk clogging sorting equipment.
- Availability of economically viable and sustainable end markets for the material.

Currently, the majority of the collected household film is baled and exported for reprocessing or used as feedstock in energy from waste (EfW) facilities. If a Local Authority is considering the collection of film through their kerbside scheme, it requires thorough communications throughout the recycling chain for anyone handling, selling or disposing of the material. Furthermore, householders need clear and concise guidance as to what can and cannot be disposed of, and how it needs to be presented. For example, clean and free from food contamination.

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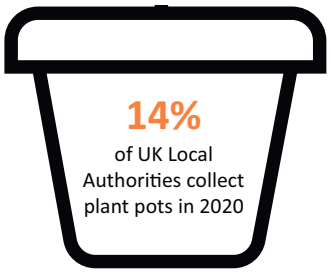
Plastic Plant Pots

The *2020 Survey* saw **14%** of Local Authorities report that they collect plant pots (or flowerpots as they are often referred to in recycling guidance to residents), with 40 explicitly conveying this on their websites. This is an increase from 10% on the *2019 Survey*. The remaining **86%** of Local Authorities either gave direction that they do not accept plant pots or did not mention them in any way in communications to residents.

Plant pots are mainly manufactured from polypropylene, and if this fits in with the feedstock requirements of the MRF and reprocessor, they can be added to existing PTT collections. Guidance on the disposal of plant pots was looked at in more detail in the *RECOUP Household Plastics Collection Survey Case Studies* report [24], which highlights the challenges to the consumer and the interpretable nature of the language used, when communicating recyclability.

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.



Non-Packaging Plastics

Non-packaging plastics could include small Waste Electronic and Electronic Equipment (WEEE), such as unwanted or broken toasters, kettles, hairdryers, power tools, and Wi-Fi routers. Other small plastic items such as toys may also be collected. These are often asked to be placed in a clear bag next to the recycling containers to separate them from other items.

Of the Local Authorities that responded to the *RECOUP Survey*, **15** confirmed that they collect non-packaging plastics as part of their kerbside collection service.

Due to the variations in the wide scale of products that are categorised under 'non-packaging plastics', including WEEE, further research is required in order to acquire a robust total for how many Local Authorities collect which product types.

Service Changes

Introducing a Service

17 Local Authorities who responded to the *Survey* stated that they are considering introducing or trialling a new collection service. This includes kerbside services, with some trialling the collection of rigid plastics, small WEEE, or PTT where they are not currently accepted. Some Local Authorities have also mentioned revising their collections with a view to introducing other plastics when their contracts renew.

Removing or Changing of Services

9 Local Authorities reported that they were considering withdrawing or changing a collection service. Changes mentioned include: moving from boxes to bins, frequency of collection, adding or removing target materials, and undecided potential changes when contracts renew.

Impact of COVID-19

COVID-19 has caused unprecedented challenges in 2020, causing widespread changes to Local Authority waste collection services. This ranged from delays or postponement of planned changes, to direct impacts on collections and other waste services.

71% of Local Authorities reported to the *RECOUP Survey* that they experienced some impact to their waste collection services due to the pandemic. When looking in more detail at what services had been affected, garden waste collection and other services (such as bulky item collection or new bin requests) were the most common to have been impacted, with many Local Authorities reporting that they had changed the frequency or suspended these collections for a period. **49%** of Local Authorities said co-mingled Dry Mixed Recycling (DMR) collections had been impacted, and **44%** of source separate recycling (where more than one container is used to segregate recycling materials for collection). In some cases, this included reducing the frequency of collections, a direct effect of reduced resources and staff shortages due to sickness and self-isolations.

Of the 143 Local Authorities who provided insight in the *Survey*, **87%** said they have seen an increase in household material collected during the first COVID-19 lockdown in March to May 2020, with the increase estimated to be on average around **17%**. This is to be expected, as in line with Government guidance, the general population would be spending more time at home, and therefore generating more household waste. This was offset by many businesses as during this time they were either closed or had staff working from home, therefore commercial collections had reduced substantially. Household Waste Recycling Centres (HWRC) were also closed during lockdown, limiting disposal options.

RECOUP completed its *COVID-19 Impact Report* [25], written in July 2020, which looked in more depth at understanding the immediate and longer-term impacts of the global situation on the UK's plastic supply, use and waste management sectors, as well as the idea of a 'green recovery'. In this research, nearly **90%** of Local Authorities reported there was a significant increase in both recycling and general waste, with an average of **26%** more material collected from kerbside waste and recycling services. From other comments received, a mid-point of **22%** is seen as an accurate reflection of the increase in collection quantities at this time. This report is available to download for **FREE** on the RECOUP website.

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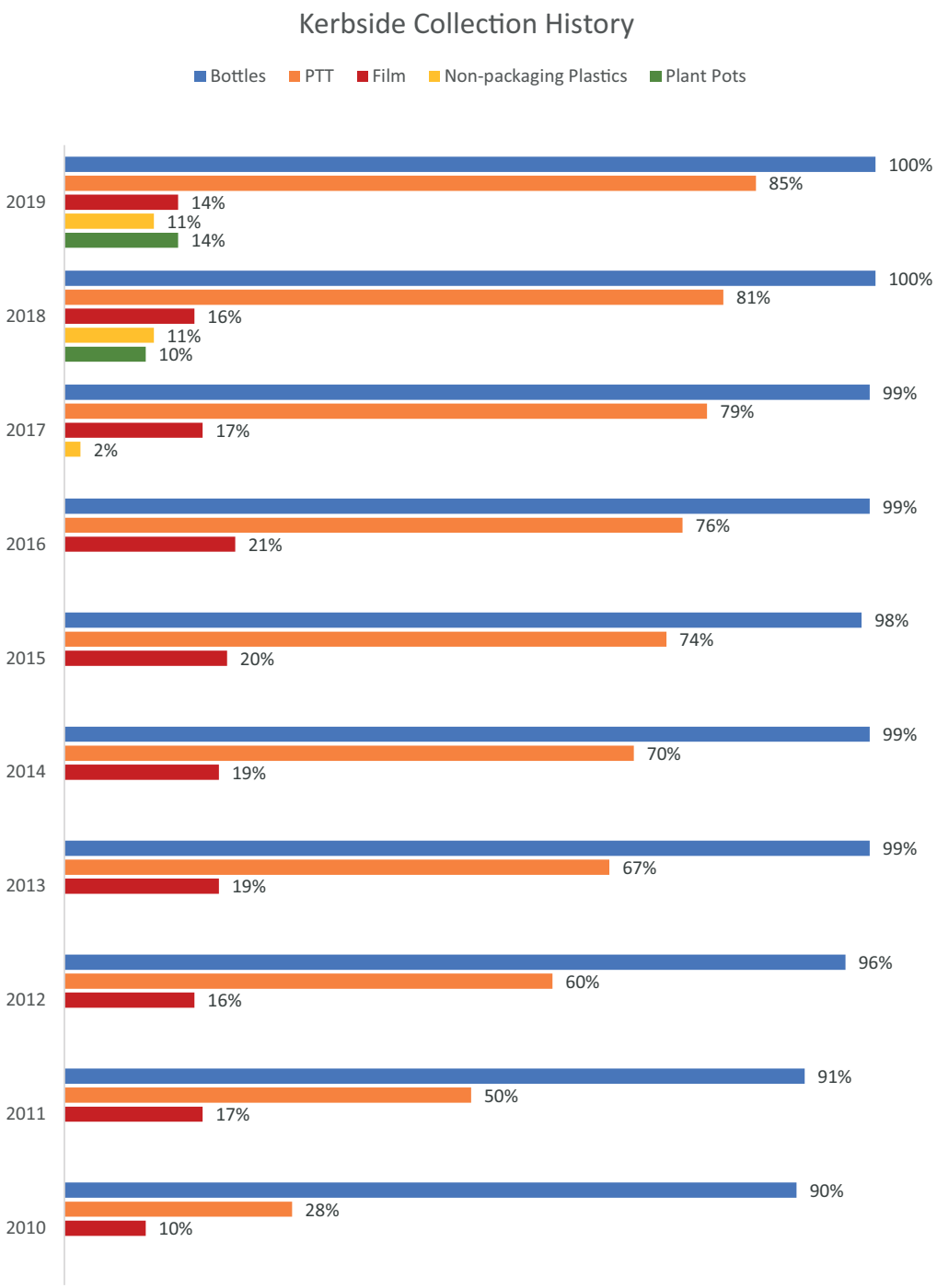
In the past decade, there has been a steady increase in plastic packaging kerbside collection provision, despite the reduction in the overall number of UK Local Authorities in this time. With increased consistency of materials being collected, there has inevitably been a slowing down of new collection services being introduced in recent years.

For the first time, as of September 2019, the UK can boast a **100%** kerbside collection provision for plastic bottles. Collections of PTT have also seen a sharp increase over time, from just 28% (114) of Local Authorities in 2010 to **85%** (325) in 2019.

Plastic film collections have reduced each year since 2016, with **14%** (55) of Local Authorities collecting this material at kerbside in 2019. This equates to there being just **4%** more Local Authorities than in 2010, when only 10% collected film.



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Kerbside Service Summary by UK Nation

Collection infrastructure across the nations in the UK varies, with a summary by UK nation shown in the table below. Whilst consistency is often cited as a challenge for achieving a positive recycling rate for the UK, this is further complicated across the different countries, with collection infrastructure varying across the UK.

	England	Scotland	Wales	N Ireland
TOTAL	**317**	**32**	**22**	**11**
Bottles	317	32	22	11
	100%	**100%**	**100%**	**100%**
PTT	265	27	22	11
	84%	**84%**	**100%**	**100%**
Film	49	2	4	0
	15%	**6%**	**18%**	**0%**
Plant Pots	40	3	5	5
	13%	**9%**	**23%**	**45%**

There are around **28 million** households in the UK [26], but the exact number of households that receive a service can vary substantially. This is because, whilst a Local Authority may offer a kerbside collection to households, there may be reasons that there is not a complete coverage of that area, such as:

- The type of property (i.e. flats, apartments).
- The location of the property (i.e. rural, inaccessible locations).
- A collection scheme that is in a trial period and is gradually being rolled out over a wide area.

Other 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 people make dedicated trips to take their waste and recycling material to (bring schemes), or at convenient points or areas of high footfall when citizens are out and about (recycling 'On-the-Go'). There also a growing number of retailers that are putting plastic film recycling collection points in place.

Bring Schemes

Bring schemes are often operated in public spaces, including car parks and at supermarkets, where the public can place their recyclables in large containers or other receptacles (i.e. bottle banks). Usually, these bring schemes target materials that are technically recyclable, but are located where kerbside collections of these materials are limited, making them more likely to end up in general waste streams. They are generally used by Local Authorities alongside kerbside schemes to supplement their recyclables collection provision.

Due to the almost complete coverage of kerbside collections in the UK, the popularity of traditional bring schemes has stagnated over time, with a gradual decline in use. However, there is an increase in units for bespoke items, such as Liquid Fibreboard Packaging (e.g. drinks cartons, Tetra Pak™).

Where funding allows, a bring service can be a useful service provision to provide. This is particularly true where a plastic format is not collected as part of the kerbside collection service, or where the kerbside service is not available to all residents, such as in rural communities or high-rise property areas.

If Local Authorities are thinking about the decision to introduce, retain or withdraw bring schemes that includes plastics, there are many considerations to factor in. These include any cost-benefit analysis of the overall plastics collection schemes operated, including the service being used as an overflow for households who have limited kerbside collection container capacity.

Household Waste Recycling Centres (HWRC)

HWRCs are available to the public for the disposal, recycling or reuse of a wide range of household materials and items, including 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 individual collection Local Authority.

In early 2020, RECOUP released its *Plastic Management and Recycling at Household Waste Centres in England* [27] report. It was estimated that around **45kt** of plastic material is captured at the **550** HWRC sites across England, annually, or **54kt** across the whole of the UK. The report is available for **FREE** on the RECOUP website.

HWRCs provide supplementary collection points for plastics collected at kerbside, and are the primary deposit point for those plastic items not compatible with kerbside services, such as non-packaging plastics (including WEEE) and bulky goods such as plastic furniture.

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STORE PLASTIC FILM RECYCLING

With only **14%** of Local Authorities in the UK collecting plastic film as part of their kerbside collection service, and with a year-on-year decline in these services, the collection and recycling of plastic film is now a priority.

There's an estimated **395kt** of plastic film used by consumers each year, but only an estimated **22kt** of this is collected for recycling, with very small amounts recycled. As such, the plastics value chain and Government are looking at ways in which to capture the recyclable potential of this material.

Retailers

Using retail stores has become an attractive proposition to collect post-consumer plastic film. This can be the catalyst to providing the confidence for recyclers that there are high quantities of usable material and to drive innovation and investment into finding and scaling up sustainable end markets. It can also start to take citizens on the journey towards recycling plastic film effectively. This provides the firm foundations and creates an easier transition to integrate the collection of these materials into kerbside collection schemes when more Local Authorities start to collect plastic film as part of a wider consistent recycling collection programme.

There are a number of challenges to overcome, but there are new technologies developing which open up a range of opportunities that weren't previously there. Significant investment is needed in UK recycling capacity, and there are considerations around the types of film and how it might best be collected (particularly with some drinks containers being collected through a DRS). Also, how it can be sorted from other materials (including keeping it separate from paper and card), bulking and transferring the sorted streams, and reprocessing to create the raw material to supply the end markets.

To be sustainable, any recycling scheme also needs commercially viable end markets to ensure the recycling messages used in communication to customers can stand up to scrutiny.

There are strong end markets for a range of non-food-based packaging, in particular, recycled commercial PE film (e.g transport packaging, carrier bags and construction barrier films such as damp-proof coursing). Mixed plastic film can also be made into boards and profiles.

Other specialist technologies offer potential solutions. For example, Enval are currently able to separate plastic aluminium laminates. Chemical recycling is also cited as a solution for these hard to process materials, though commercial scale operations in Europe are still a number of years away.
Investment and solutions need time to build. However, with Extended Producer Responsibility funding coming in 2023-24, there is a real possibility these developments can happen as more Local Authorities starts to collect this material.

RECOUP Activity on Film Recycling

RECOUP's work has included being part of the plastic film working groups and discussions such as the Flexible Plastics Fund (previously known as EPPIC) which is led by the Packaging Compliance organisation, Ecosurety.

RECOUP supports confidential recycling trials, whilst also developing and assessing performance of front of store plastic film collection schemes on behalf of our members. This work has included consumer communication and engagement, analysis of the composition of materials to assess scheme performance and researching end markets.

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To build on this, RECOUP has been commissioned by WRAP to develop a guidance document for front of store plastic film collections. This includes the following outputs:

- **Terminology** – drawing on existing insight on what to call existing and new collection points and how 'films' are referred to.
- **Consumer Communications and Engagement** - messages, type of language, imagery and signage for a variety of communication channels (collection units, in-store communications, online, etc.).
- **Staff Training and Logistics and Business Operations** – information that needs to be communicated to the business, partners and stakeholders.
- **Sorting Capabilities and End Markets** – understanding the recycling capabilities for different film collection options.

There will be much more happening with plastic film recycling in the next few years, and RECOUP will keep active in this area to support activities and research for its members to maximise the many opportunities in this area.

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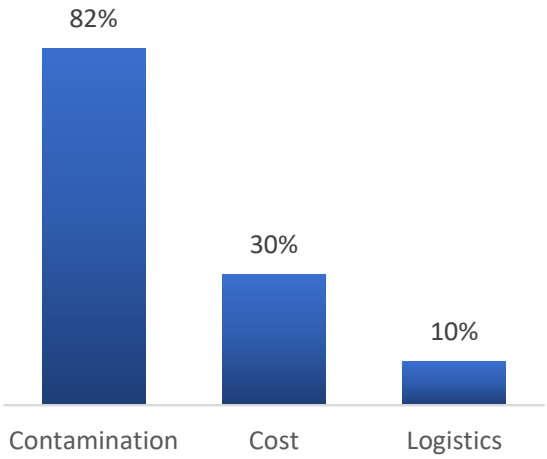
Recycling 'On-the-Go'

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

The *2020 RECOUP Survey* reported **47%** of Local Authorities provide 'On-the-Go' recycling bins. Although this was 51% in the *2019 RECOUP Survey*.

A well designed and maintained recycling 'On-the-Go' scheme can potentially generate good quality material and also 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.

50 Local Authorities provided answers as to why they are not providing a recycling 'On-the-Go' service. As was the case in the *2019 Survey*, **contamination** continues to be the most prevalent issue, with **82%** citing this. **30%** said **cost** was a problem, and **10%** **logistics**, with some Local Authorities stating all three.



The heavy contamination of the material could be resolved in many cases with clear and strong bin signage, regular collections, and communicating with residents and visitors through all available channels (e.g. street signage, digital channels, direct communications to households). 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.

Local Authorities reported the majority (**64%**) of 'On-the-Go' recycling waste goes to recycling facilities, **21%** to energy from waste (EfW), **9%** to refuse derived fuel (RDF) or mechanical biological treatment (MBT), and **2%** reported going to landfill (4% said 'other').

The reason 64% of recycling 'On-the-Go' material is reported as going to a recycled end destination could be that contamination is not always obvious and can be hidden. This may be due to logistical or cost reasons, meaning 'On-the-Go' material is co-mingled with kerbside collections. This has the potential to intentionally, or unintentionally, disguise the often more contaminated materials within the cleaner, kerbside source.

Deposit Return Schemes (DRS)

There is now strong momentum for DRS to be used across the UK in order to collect a variety of drinks containers. Trials of reverse vending machines (RVM) have already taken place, including some retailers using them in their stores.

Scotland intend to implement a DRS independent of the rest of the UK. This is planned to be launched in July 2022, following a postponement of the originally planned launch in April 2021. This delay was agreed in order to lay regulations, giving clarity to industry and consumers on what the scheme will look like, as well as providing a clear timetable for delivery, factoring in time for businesses to respond to the COVID-19 pandemic [28].

England, Wales and Northern Ireland have also tentatively proposed a launch date of 2023 for DRS in these countries. Further information and data are now being developed to agree the structure and operational details with a further consultation expected to take place in 2021 [29].

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Kerbside Collection Variables

Local Authority approaches to the collection of materials from kerbside can vary considerably. Many variables impact on their approach, including housing types, urban or rural geographical areas, and demographics, which all need to be considered in order to provide the most efficient service.

Confusion and consistency are major themes, not only in terms of materials and the way in which they are collected, but also how this is communicated to residents. This confusion can be through use of different language to describe the same items (e.g. plant pots and flowerpots, carrier bags and plastic bags), as well as variation in instructions around how items should be presented (e.g. tops on or tops off bottles).

The *2020 RECOUP Survey* looks at a number of variables that both highlights these differences, as well as the differences in Local Authorities approaches. These include:

- Container types.
- Container colours.
- Co-mingled vs source separated collections.
- Frequency of collections.

Kerbside Collection Container Types

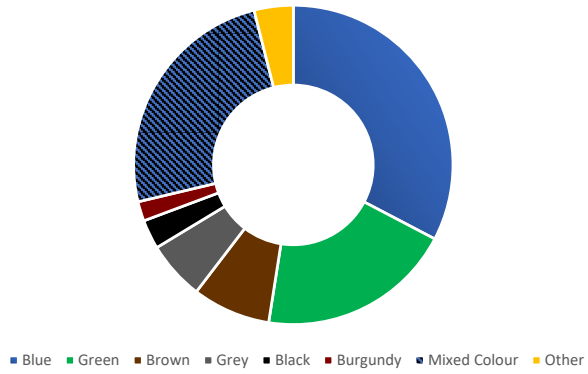
There are **3** main types of kerbside collection container used for dry recyclables in the UK. These are: wheel bins, boxes and bags (disposable and reusable). The most popular kerbside recyclables collection container is a wheel bin. However, in recent years, adoption of alternative units has become more popular, 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 increasing variables around containers used by Local Authorities across the UK, in 2020, **75%** of units used to collect plastics at kerbside were wheel bins.

Kerbside Collection Container Colours

The *RECOUP 2020 Survey* has once again 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 recycling plastic, the colour range is:



Blue was the most popular colour, with a third (**33%**) of the Local Authorities opting for blue bins. Green was the next most frequently used (**20%**). Followed by brown, grey, black, and burgundy which made up a combined **19%**. **25%** of Local Authorities have mixed colour bins, where the lid is a different colour to the body. The most popular lid colours were blue and green, and the most popular body colours were green and black. The 'other' category, used by **4%** of Local Authorities, included lesser seen bin colours such as silver, red, purple, light green and light grey.

Co-mingled vs Source Separated Collections

Using answers from the *2020 RECOUP Survey* alongside Local Authority website communications, it can be reported that **53%** offer co-mingled collection of materials. The remaining **47%** use the source separated method where more than one container is used to segregate recycling materials for collection. Often, when source separated is opted for, it is to single out one specific material such as paper or glass.

With continued pressure to increase the quality of material collected for recycling, cost benefit analysis needs to be carefully utilised when comparing the additional costs of kerbside sorting versus the costs to sort co-mingled material at MRFs.

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Frequency of Recycling & Residual Waste Collections

The frequency of recycling collections is an important factor in the effectiveness of a kerbside recycling scheme. This can range from weekly and alternate weekly recycling collections (alternating with the residual collection), to fortnightly, 3-weekly or 4-weekly collections. The *2020 Survey* has seen **73%** of Local Authorities collecting recyclables on a fortnightly basis, with **21%** using weekly collections, and **6%** opting for 3-weekly or 4-weekly collections. Despite being less commonly used, 3-weekly or 4-weekly collections have increased by 3% on the *RECOUP Survey 2019* data.

In recent years, there has been a greater focus on waste management, particularly recycling, and Local Authorities have reported successes in saving money by operating schemes differently. However, in the *2020 RECOUP Survey*, from over 130 responses, just shy of **20%** of Local Authorities stated they are investigating or planning to change collection service frequency, with **12%** saying they have changed their frequency in the last 12 months.

It is worth noting that as these collections frequencies are reported for 2019-20, with the financial year ending in April, some of these collections and changes could have been impacted by the start of the COVID-19 pandemic.

Improving Overall Performance

27% of Local Authorities, from 130 who responded to this question in the *2020 RECOUP Survey*, reported that they have had particular success in improving the overall performance of their collection services in 2019-20. These included improved recycling from flats, changes to collection logistics, as well as contamination checks and expanded materials collected (e.g. food waste). This is evidence that Local Authorities are evolving to improve amid a landscape of reduced responses to deliver their collection services.

Treatment of Residual Waste

Largely due to the continual improvements in technologies and approaches in retrieving recyclate from streams ultimately heading to landfill or incineration, residual waste treatment continues to be a key subject, particularly in discussions around improving recycling rates.

Whilst accurate data around how much plastic is in the residual waste streams is hard to quantify, it is widely acknowledged that there are significant amounts each year.

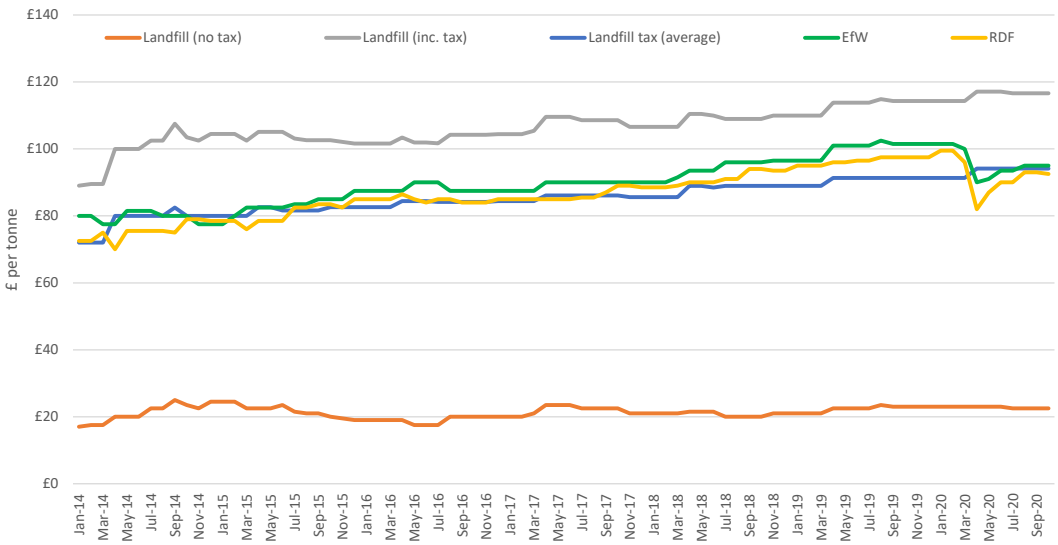
The *Waste Framework Directive* sets a target for EU member states to reuse and recycle **50%** of municipal waste by 2020 [30]. The UK collection rate for waste from households was **45%** in 2018, a reduction from 45.5% in 2017. The decrease was seen across all UK countries except for Northern Ireland [31]. This downturn in the recycling rate raises concerns that the UK will struggle to meet future municipal recycling targets. Although the UK is leaving the EU, it is expected that future targets will mirror or be higher than EU targets.

With increasing landfill and incineration gate fee costs, Local Authorities are increasingly looking at a variety of treatment options to recover plastics packaging from all available sources, creating alternative methods for increasing recycling rates. A graph showing the price trend of gate fees and taxes for landfill, energy recovery and refuse derived fuel (RDF) can be seen below.

In order to achieve increasingly challenging recycling targets, and with increasing landfill and incineration gate fees, Local Authorities are increasingly looking at a variety of treatment options to recover plastics packaging from all available sources, creating alternative methods for increasing recycling rates.

Gate Fee and PRN price data in the graph below are from REB News and Let's Recycle.

Landfill, EfW and RDF Gate Fees (2014 to 2020)



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Treatment Options for Residual Waste

Local Authority knowledge about how residual waste is treated is good, with **92%** stating that they were aware of the treatment process. When asked to identify which process was used in their area, Local Authorities answered the following:

What is the Treatment of Residual Waste Collected in your Local Authority	
Energy from Waste (EfW)	**59%**
Landfill	**38%**
Mechanical Biological Treatement (MBT)	**25%**
Refuse Derived Fuel (RDF)	**25%**
Recycling	**17%**
Anaerobic Digestion (AD)	**14%**

Landfill

Despite being the bottom of the waste hierarchy, landfill is still the only viable option for a number of Local Authorities disposing of non-recyclable materials. However, with progress known to be being made with the growth of alternative infrastructure in the UK, and increased reliance on energy recovery as a better alternative, actual tonnages of material disposed of at landfill has reduced year-on-year over the last two decades.

Energy from Waste (EfW)

EfW generates energy (heat or electricity) from the treatment process and can provide sustainable and cost-effective energy supplies. The UK's capacity for energy recovery has grown exponentially in recent years and is expected to continue to do so. However, increasing gate fees along with the need for circular solutions for plastic waste highlight how it should only be used when a recycling end destination cannot be achieved.

Refuse Derived Fuel (RDF) and Mechanical Biological Treatment (MBT)

RDF is produced by some MBT processes and can be used as a fuel. MBT is where waste is stabilised through biological treatment using mechanical separation of the recyclable and readily combustible material from the remaining organic or lower grade material. **25%** of Local Authorities use RDF as a destination for residual waste, with a further **25%** reporting MBT separately.

Recycling

Recycling as an end destination has seen an increase from 9% in 2017 to **17%** in the *RECOUP 2020 Survey*. As with previous years, the definition of 'recycling' raises questions as to whether they are being included in household recycling quantities and rates, or being classified as a landfill material. In real terms, this may still find its way into the recycling stream and be included in Packaging Recovery Note (PRN) data. Also, they may be included as part of the overall quantity of plastics packaging that is classed 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 assume how this data is categorised.

Recovery of Plastics from Residual Waste

The *2020 RECOUP Survey* can report that just over a quarter (**27%**) of Local Authorities stated that they currently recover plastics for recycling from residual waste streams, preventing the material from going to landfill, energy recovery facilities or other non-circular end destinations.

Although financial and technological barriers are why more plastics 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 change over time.

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FOOD WASTE COLLECTION

The 2020 RECOUP Survey is the first-time questions have been asked to Local Authorities about food waste collections. Although reducing food waste is paramount, collecting what is wasted is the next step to offset some of its damaging environmental impacts, and the use of food waste bin liners is increasingly becoming an important consideration.

Food Waste in the UK

It has been widely reported that household food waste in the UK has reduced significantly in recent years, estimated to be over 20% in total since 2007. However, we still throw away in excess of **6.6 million tonnes** of food waste each year, with **70%** of this accounting for food which could have been eaten [32].

The carbon impact of food waste in the UK in 2018 was the equivalent to that generated by **1 in 5 of the cars on UK roads** [32]. Furthermore, if this food waste makes it to landfill, its decomposition releases methane, a damaging greenhouse gas. To combat this, citizens are encouraged to recycle food waste through their Local Authority collection schemes where they are in place, or compost it at home.

The UK's edible food waste in 2018 was estimated to have cost **£14 billion**. This equates to £60 per month for an average family with children. [32]

The *2020 RECOUP Survey* found that **59%** of Local Authorities collect food waste from householders, with **44%** offering a separate kerbside collection, and **15%** asking residents to combine food waste with garden waste. This leaves **41%** who do not separate food from general waste sent for landfill or energy recovery. The availability of kerbside collection of food waste also differs drastically throughout the UK, with **94%** of Local Authorities in Scotland and **ALL** Local Authorities in Wales and Northern Ireland collect food waste, either separately or with organic waste.

70% of UK food waste would have been edible. The 30% inedible food waste is made up of items such as bones, fruit peel, etc. [32]

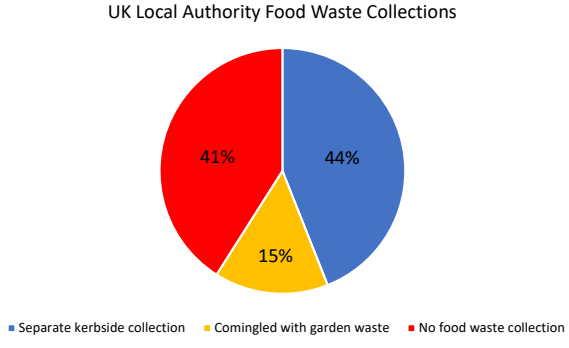
Type of Liners

Where collection is offered, Local Authorities often suggest lining kitchen caddies for convenience, hygiene and ease of removal. Many provide their own liners, often free of charge, to help encourage involvement in the scheme and to help ensure that correct material types are used to contain the food waste.

The *2020 RECOUP Survey* reports that the most popular type of liners recommended are **compostable** ones, with many Local Authorities stating residents should check the liner conforms to the European standard for compostable packaging (EN 13432) [33], and displays the compostable seedling logo.

However, an increasing number of Local Authorities are accepting plastic alternatives, boasting that residents can now use films such as carrier bags and bread bags to contain their food waste prior to going for anaerobic digestion (AD) [34] or in-vessel composting (IV) [35]. The output material from these processes can then be used as soil enrichment for gardens, landscaping or agriculture.

It is important the type of liners accepted is agreed between the Local Authority and the AD or IV operators, and this is clearly communicated to residents, in order to limit potential plastic contamination and improve feedstock quality [36].



A case study following the Co-op's initiative to replace its single-use carrier bags with compostable bags that can be used as food waste liners, can be found on the RECOUP website [37].

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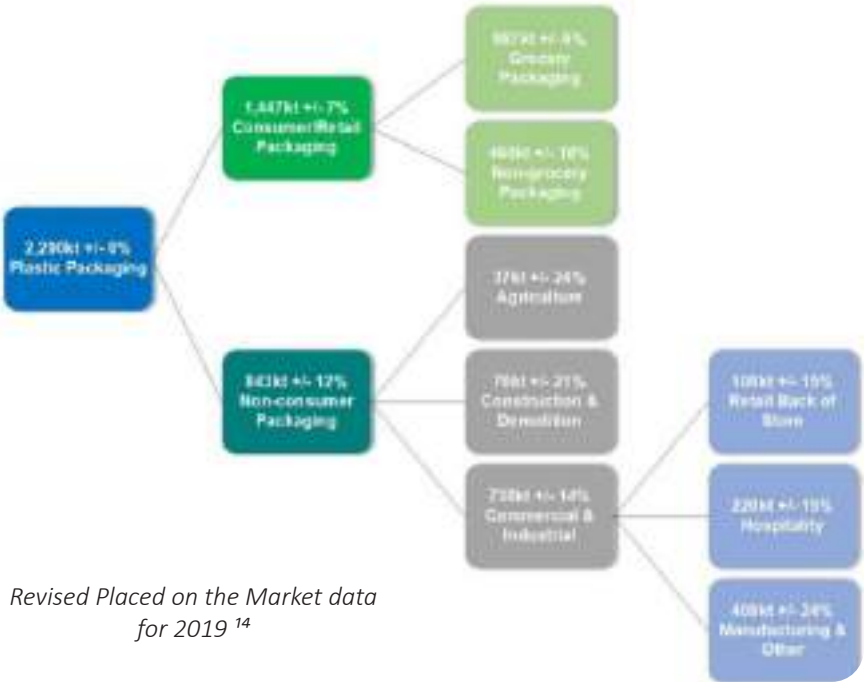
PLASTICS PLACED ON THE MARKET

Packaging is the main source of plastic consumed in the UK. Collecting data around 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.

Due to the widespread challenges and changes in 2020, as well as the availability of more accurate data sets, Valpak has updated its estimated Placed on the Market (POM) figures, for the UK. These have been reported as part of the Valpak ***PackFlow Covid-19*** reports [14]. This data amends estimated POM quantities in 2019, as well as producing new estimates for 2020 to 2022, in light of the impact of the COVID-19 pandemic.



Revised Placed on the Market data for 2019 [14]

These figures, revised from ***PlasticFlow 2025*** [15], estimate a **3%** of plastic packaging POM in 2019. Overall, this has reduced from 2,361 kt to **2,290 kt**. Of this, **1,447 kt** is consumer packaging, down from 1,532 kt in the previous report, meaning that this constitutes around **63%** of all plastic packaging.

Similar revised estimates have been made for 2020 to 2022, and these are much more heavily impacted by the COVID-19 pandemic. 2020, in particular, sees a **decrease** of around **200,000 tonnes (10%)**, due to widespread closures and restrictions hitting the hospitality sector especially hard. 2021 and 2022 then show **80,000** ad **90,000 tonne** increases as packaging quantities return to pre-COVID levels..

The data is split by:

- **Consumer sources**. Plastics packaging used in food, drink, groceries, body care, clothing and DIY products sold by supermarkets and retailers.
- **Non-consumer sources**. Mostly commercial and industrial material, nearly half from 'Manufacturing and Other' which is made of: food, drink & tobacco; textiles/wood/paper/ publishing; power and utilities; chemicals/non-metallic minerals manufacturing; metals manufacturing; machinery & equipment (other manufacturing); transport & storage; and other services. Around a quarter is food and drink from the hospitality sector, with the remainder made up of back of store plastics packaging discarded by retailers and use by the construction, demolition and agricultural sectors.

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The Valpak *PackFlow Covid-19 Phase I: Plastic* report [14] provides the composition of consumer (household) data by plastic format and polymer:

	HDPE	LDPE	PE	PET	PP	PS	PVC	Other	Grand Total	
Bottle	274	0	2	348	17	0	0	1	643	44%
Film	16	103	17	43	80	4	3	46	311	22%
Other	43	21	3	44	77	2	1	2	194	13%
PTT	5	0	3	164	92	28	3	4	300	21%
Grand Total	338	125	24	599	267	35	7	53	1,447	
	23%	9%	2%	41%	18%	2.4%	0.5%	4%		

The household fraction broadly consists of:

- **643,000 tonnes** of plastic bottles – 334,000 (52%) drinks bottles and 309,000 (48%) non-drinks bottles.
- **300,000 tonnes** of plastic pots, tubs, and trays (PTT).
- **311,000 tonnes** of plastic film.
- **194,000 tonnes** of 'other' plastics packaging such as caps, lids, toothpaste tubes, chocolate/sweet wrappers, egg boxes, blister packs, etc.

Last year's *Survey* saw changes in how the composition of PTT was measured. Similarly, in 2019, data of 194,000 tonnes of 'other' plastics packaging was placed within the PTT fraction. This is due to the 'other' plastic packaging being predominantly rigid packaging. This gave the PTT fraction a total of **494,000 tonnes**.

Calculating Collection Rates

The quantity of household plastics packaging POM is essential in providing clarity on how recycling collections are performing and the opportunities that exist to collect more material.

Plastics packaging POM trends are estimates and 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.

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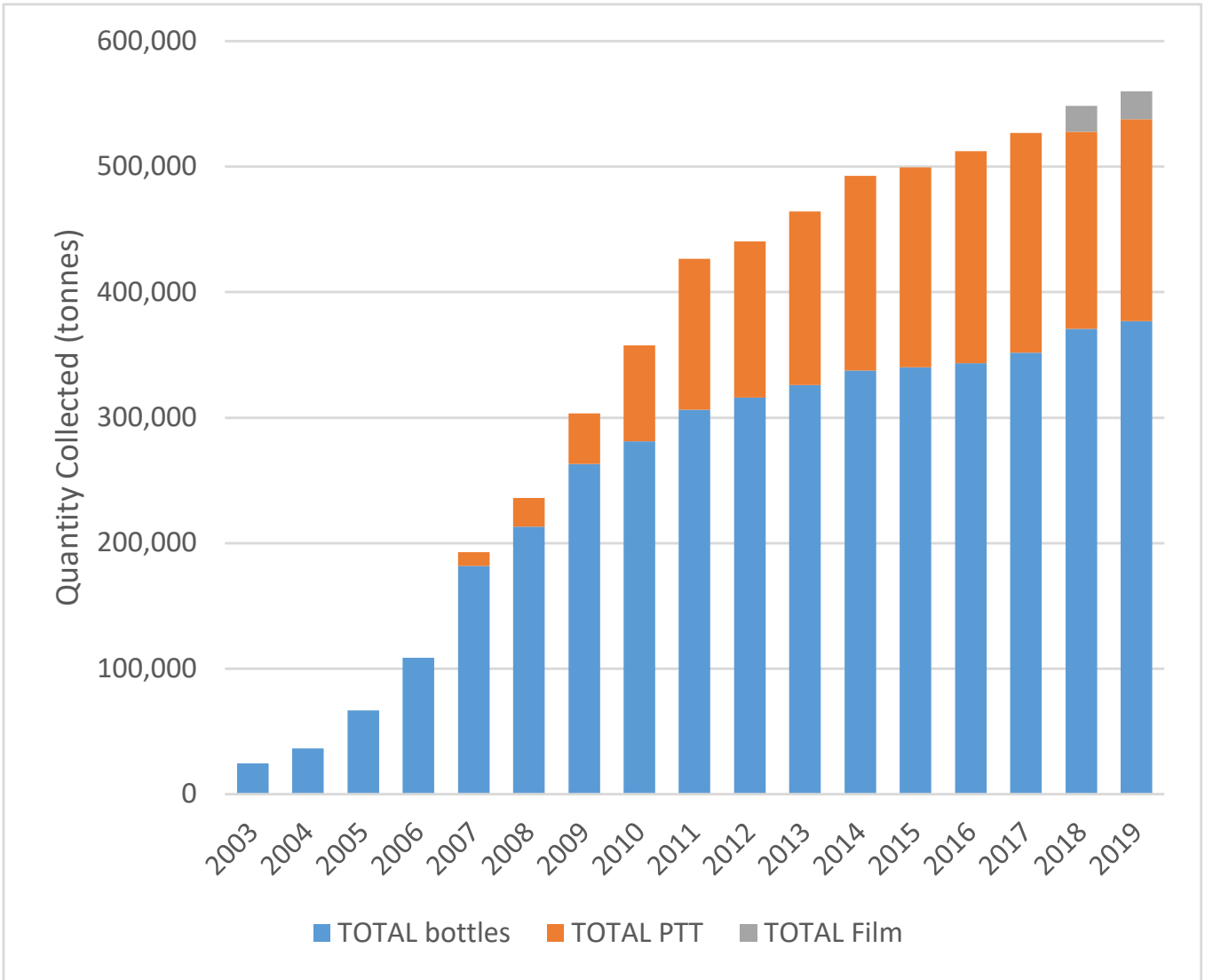
HOUSEHOLD PLASTICS COLLECTION PERFORMANCE

The RECOUP Survey has reported the plastics packaging quantities collected from UK households for over 25 years and has provided measurement indicators to assess performance of household collection schemes.

Household Plastics Packaging Recycling – The Story

Since 1994, each ***RECOUP Survey*** has reported growth in plastics collected for recycling, and the ***Survey*** data is used extensively to represent both past successes and challenges for the future. This is shown by the increase in quantities since kerbside collection data was first reported in 2003.



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Plastic Bottles

Only 425 tonnes of plastics were collected when data was reported in the first *RECOUP Survey* in 1994. This is the equivalent of 9.3 million plastic bottles, and these were mostly collected from bring schemes. As collection schemes widened, by 2003, it was reported that 24,000 tonnes of plastic bottles were collected for recycling. This is over 500 million bottles. 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 and becoming more efficient.

Kerbside collections of **plastic bottles for recycling is now offered by all UK Local Authorities**, with the final council beginning to collect them from autumn 2019.

In total, there has been **over 95 billion plastic bottles collected** since 1994 – that's around **4.3 million tonnes.**

Pots, Tubs & Trays (PTT)

Since kerbside collection data for PTT started to be reported in 2007, there has been a steady increase in collection quantities. Just over 9,000 tonnes were collected in 2007, rising to an estimated **161,000 tonnes** in 2019. It is estimated that the overall total quantity of PTT collected for recycling since 2007 is **over 1.5 million tonnes**.

Despite increasing each year, around **15% of Local Authorities still do not collect PTT**. This offers 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, in recent years, viable end markets have only been proven for the polypropylene (PP) fraction. Innovation and investment is needed in sorting and reprocessing infrastructure to help develop further options for recycling of PTT.

Plastic Film

Plastic film has been present in the household plastic packaging recycling stream ever since co-mingled collections were introduced. However, it is only recently that interest in this significant volume of material has begun to draw focus, even to the point where retailers are looking at bespoke schemes for collecting it. It is also being included in discussions around consistent collection legislation for England, and should be included in the questions in the Government consultation in early 2021 [23].

With the support of Local Authority and waste management company data and insight, the *2020 RECOUP Survey* has been able to estimate approximately **22,000 tonnes** of plastic film was collected for recycling in 2019. However, by comparison, over **311,000 tonnes** of this material was placed on the UK market in the same timescale. This means that **less than 7%** was collected for recycling. Furthermore, since 2016, the UK has seen a reduction of Local Authorities collecting plastic film at kerbside, with it peaking at 21% in 2016, compared to just **14%** in April 2020.

Composition of Plastics Collected for Recycling

The *2020 RECOUP Survey* data has seen a number of changes and challenges this year, in part due to:

- New Placed on the Market (POM) data from the Valpak *PackFlow Covid-19 Phase I: Plastic* report [14].
- The need to understanding the composition of data reported as 'mixed plastics'.
- New estimation plastic film collection quantities and recycling rates.

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

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The 'Mixed Plastics' Data Challenge

Estimating household plastics packaging collected for recycling relies on a number of measurement indicators as outlined in the '*Methodology & Reporting*' section of this report. Every Local Authority, waste management provider, Material Recovery Facility (MRF) and Plastic Recovery Facility (PRF) can have a different approach to this depending on operational decisions and the end market availability at that time.

The 'data challenge' is mainly due to plastic packaging fractions increasingly being reported as 'mixed plastics', a co-mingled total for all dry mixed recycling (DMR). This mixed fraction can vary considerably between Local Authorities depending on a number of factors. These include 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 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 never 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.

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

	Estimated Total Collection Quantities	
	2019 (tonnes)	% Split
Bottles	377,000	67%
PTT	161,000	29%
Film	22,000	4%
TOTAL	560,000	100%

Plastics Packaging Collected for Recycling from UK Households

After analysis of the reported quantities collected for recycling, it can be confirmed there was an estimated **560,000 tonnes** of plastics packaging collected for recycling from UK households in 2019. This is an overall increase of **just over 2%** in collection quantities compared to 2018.

Compared to the previous year, in 2019:

- An additional **6,000 tonnes** of bottles were collected for recycling.
- An additional **4,000 tonnes** of PTT were collected for recycling.
- An increase of **1,000 tonnes** of film were collected for recycling.

	2018 vs 2019
Plastic Bottles	+1.6%
Plastic PTT	+2.5%
Plastic Film	+6.6%
TOTAL	+2.1%

RECOUP will continue to engage with Local Authorities and waste management companies to further understand and reflect the composition of household plastics packaging. Whilst in coming years it seems inevitable that figures will be nuanced due to the significant impact of the COVID-19 pandemic, plans to continue consultations and implementations around consistent collections and Deposit Return Schemes (DRS) mean that robust and accurate data is essential to understand their impact and success.

Household Plastics Packaging Collection Rates

Collection rates are the percentage of plastics 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 use the best available plastic packaging POM data to compare against the reported collection quantities.

All the complex data considerations in the *2020 RECOUP Survey* use the revised POM data as set out in the Valpak *PackFlow Covid-19 Phase I: Plastic* report [14]. This helps in understanding the composition of data reported as 'mixed plastics', and estimating plastic film collections; all considerations which impact on collection rates.

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Plastic Bottles

The UK has seen steady increases in plastic bottle quantities collected over the last decade. This is in line with increases in amounts of this format POM each year. As such, collection rates of plastic bottles have been consistently just under 60% each year. The *2020 RECOUP Survey* can report that the 2019 figure was **59%**. This is a **6,000 tonne increase** but was offset by an **11,000 tonne increase** in bottles POM.

It is worth noting that due to DRS coming into place in Scotland (in 2022) and the rest of the UK (in 2023), there is likely to be significant impacts on both the method and quantities of plastic bottles collected in the future.

Plastic Bottles	
Consumption Quantity	634,000
Collection Quantity	377,000
Collection Rate	**59%**

Plastic Pots, Tubs & Trays (PTT)

Despite variations in the POM data in recent years, collection rates for PTT has increased since 2013 when it was at 20%. Based on estimates, the *2020 Survey* can report that in 2019, **161,000 tonnes** of the **494,000 tonnes** of PTT POM was collected. This gives a collection rate of **33%**.

These figures are estimated using the revised compositional analysis data received in 2019, which reduced the overall POM figure, accounting for 'mixed' and 'other' plastics.

Plastic PTT	
Consumption Quantity	494,000
Collection Quantity	161,000
Collection Rate	**33%**

Plastic Film

In the *2019 RECOUP Survey*, there were estimates for collection quantities of plastic film for the first time. This was reported as being just under 21,000 tonnes of the 395,000 tonnes POM at the time, with a collection rate of 5%.

The *RECOUP 2020 Survey* can report that the overall tonnage of material collected has increased slightly to **22,000 tonnes**. Based on the revised tonnage of plastic film POM of **311,000 tonnes** in 2019, this gives a collection rate of **7%**. This is despite a noticeable drop in provision for collection of plastic film by Local Authorities, which has reduced from 16% in 2018 to just over **14%** in 2019.

Plastic Film	
Consumption Quantity	311,000
Collection Quantity	22,000
Collection Rate	**7%**

All Household Plastic Packaging

The *RECOUP 2020 Survey* can report that the overall collection rate for all household plastics packaging is **39%**. The collection rate for all rigid plastic packaging only is **47%**, a **1%** increase on 2018.

All Plastic Packaging	
Consumption Quantity	1,448,000
Collection Quantity	560,000
Collection Rate	**39%**

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Plastic Bottle Use & Recycling

The collection quantities (tonnes / number of units) and rates (%) for plastic bottles collected can be calculated based on the following data:

- **643,000 tonnes** of plastic bottles POM.
- An estimated average of **22,000 plastic bottles per tonne**.
- Around **28 million households** in the UK.

Although this may not truly reflect future collections, it does give a scale of the challenge and performance needed from schemes in the UK. The immediate impacts of the COVID-19 pandemic, as well as the anticipated use of a DRS across the UK, consistent collection of materials in England, increased funding through the reform of the Packaging Producer Responsibility System, and future financial investment in collection infrastructure, all affect future predictions.

Plastic Bottles Used

Over 14 billion plastic bottles are used each year in the UK – that's nearly 39 million plastic bottles every day - 1.4 bottles per household.

Plastic Bottles Collected for Recycling

Nearly 8.3 billion plastic bottles were collected for recycling in 2019 – that's almost 23 million bottles every day.

Plastic Bottles Not Collected for Recycling

Nearly 5.9 billion plastic bottles were NOT collected to be recycled from UK households – that's over 16 million plastic bottles every day.

Average UK Household

The average UK household uses 520 plastic bottles a year, but only recycles just over 300 of them. This means that around 200 bottles are not collected for recycling.

When looking towards meeting recycling targets, estimates can be made around future tonnages POM and collected for recycling. Estimates include:

- Based on pre-COVID-19 estimates, the number of plastic bottles POM would be over **155 BILLION** by 2030.
- Based on the current collection rate of **59%**, over **91 BILLION** plastic bottles collected for recycling and over **6 BILLION** plastic bottles not collected for recycling by 2030.

There is currently no robust estimate of the average number of bottles within the PTT fraction, per tonne, but based on the same assumptions as plastic bottles:

- There would be nearly **6 MILLION** tonnes of PTT POM with nearly **2 MILLION** tonnes collected for recycling and **4 MILLION** tonnes not collected by 2030.

These estimates do not account for changes in POM data for 2020 to 2022, caused by the impact of COVID-19. However, both the medium to long term impact and duration of these variables remains to be seen.

Reported Quantities from Non-Kerbside Collection Services

In the UK, the primary method by which household plastic packaging is collected for recycling is from kerbside schemes, with other schemes focused on 'Away from Home' collections. These are where people make dedicated trips to bring their waste and recycling material to bespoke services (e.g. bring schemes, Household Waste Recycling Centres). They are often serviced as part of the kerbside collection route, or directly from retailer store schemes. This generally means that specific weights for materials collected by Local Authorities from these services are not recorded separately.

Up until the *2014 RECOUP Survey*, plastics collected via kerbside and bring schemes were estimated separately, with an allocation from recycling 'On-the-Go' schemes as part of the total collected from bring schemes. To reflect the reporting trends and the relatively stable collection quantities from these non-kerbside sources, an estimated **40,000 tonnes** has been allocated which has been estimated by plastic format:

- Plastic bottles – **75% (30,000 tonnes)**
- Plastic PTT – **20% (8,000 tonnes)**
- Plastic film – **5% (2,000 tonnes)**

2020 has seen significant disruption to 'Away from Home' collection schemes, both in terms of Local Authorities' abilities to service them, but also the significant increase in time spent at home, and therefore waste generated there. Whilst the 2019-20 data saw minimum impact due to the COVID-19 pandemic first causing major issues in mid-March 2020, this will have caused significant discrepancies and challenges in estimating future non-kerbside collection quantities.

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Recycling & Carbon Use

There are a number of ways in which the benefits of recycling can be framed and communicated to reflect the wider positive impact on carbon and energy efficiency, helping provide context and promote uptake in the schemes.

One example is that **recycling 1,000kg of plastic bottles saves 750kg of carbon**, which is the equivalent of travelling nearly 2,500 miles by vehicle [38]. Calculating the **377,000 tonnes** of plastic bottles collected for recycling in 2019, this would be the equivalent of travelling around the world nearly **33,000 times**.

Plastic Packaging Collections by Nation

Collections of household plastics packaging can be reported by each individual UK nation.

There is no robust collection data from non-kerbside schemes and as such the calculations use the total reported data from kerbside schemes as they stand, with the quantities from non-kerbside schemes split by the proportion of households in each nation, against the total in the UK.

Plastic Bottles

After the composition of 'mixed plastics' analysed as part of the *2020 RECOUP Survey*, there is an estimated **377,000 tonnes** of plastic bottles collected for recycling. Since autumn 2019, **ALL** Local Authorities targeted plastic bottles as part of their kerbside recycling collection service. Having been consistently at 99% for five years prior, the estimated collection levels continue to grow year-on-year, though increases are unremarkable. There has only been an **11% increase** in collection quantities, rising from 340,000 tonnes in 2015 to the current estimate in 2019.

The *2020 RECOUP Survey* estimates consist of **347,000 tonnes** from kerbside collections and **30,000 tonnes** from bring, Household Waste Recycling Centres (HWRC) and recycling 'On-the-Go' schemes.

	Quantities of Plastic Bottles Collected 2019 (tonnes)
England	314,609
Scotland	29,438
Wales	22,691
N Ireland	10,262

When split by UK nation, the data indicates that England accounts for over **83%** of the total plastic bottles collected, with Scotland, Wales and Northern Ireland representing **8%**, **6%** and **3%** respectively.

Plastic Pots, Tubs & Trays (PTT)

There has been a steady increase in collection quantities of PTT in recent years. There was evidence that plastic bottles and film were going into the PTT stream and this has impacted on the collection figure in the *2020 RECOUP Survey*.

In the *2018 RECOUP Survey*, the estimated collection quantity of PTT was 175,000 tonnes, but after analysis of the composition of 'mixed plastics' this was rescaled to 157,000 tonnes. However, it needs to be emphasised these reductions do not represent real life changes, but rather a more precise estimate of the collection data.

As of April 2020, **85%** of Local Authorities now provide a kerbside collection scheme that includes PTT. This is up from 81% in the *2019 RECOUP Survey*. New collection schemes are being introduced as the UK moves towards consistent material collections, and therefore collection quantities should continue to increase. RECOUP will continue to monitor the composition of the household plastic packaging stream, which will have implications for estimated collection quantities of PTT.

	Quantities of Plastic PTT Collected 2019 (tonnes)
England	133,460
Scotland	12,034
Wales	11,097
N Ireland	4,400

Across the UK nations, England accounts for **83%** of PTT collected, with Scotland and Wales each representing **7%**, and Northern Ireland **3%**.

Plastic Film

The *2019 RECOUP Survey* was the first to estimate a collection quantity for plastic film. This was at 20,638 tonnes, made up of 18,638 tonnes from kerbside schemes and 2,000 tonnes from bring, HWRC and recycling 'On-the-Go' schemes. In the *2020 Survey*, it is estimated that **22,000 tonnes** of plastic film was collected in total.

Despite the Local Authorities who collect plastic film as part of their kerbside recycling provision reducing year-on-year, plastic film is still a significant stream, whether the Local Authority targets it for recycling or not.

As with previous years, the challenges with plastic film collection remain the same. With very limited end markets available, collections levels are expected to remain low. However, discussions around inclusion of plastic film within consistent collections creates a significant opportunity to capture a large amount of recyclable plastic material, all-be-it one which comes with its own sorting and processing challenges.

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In 2019-20, a number of UK retailers began operating more store collection schemes for otherwise unrecyclable plastic packaging. This largely focused on trials of collecting plastic film from consumers, though with some added variables such as black and mixed plastics. Whilst not expected to be a permanent solution, these additional collection points seek to show that both consumer engagement is there, and that the material can have a circular solution.

	Quantities of Plastic Film Collected 2019 (tonnes)
England	19,137
Scotland	1,176
Wales	1,309
N Ireland	377

England accounts for broadly **87%** of the total plastic film collected in the UK, with Scotland **5%**, Wales **6%**, and Northern Ireland **2%**.

What Plastic Film can be Recycled?

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

- Bread bags.
- Toilet paper and kitchen roll packaging.
- Fruit and vegetable bags.
- Multi-pack packaging.

Plastic film needs to be presented for recycling by the consumer as clean as possible. For many collection schemes, plastic film contaminated with food waste (e.g. film lids used on ready meals), metallised pouches, PVC film, plastic netting and biodegradable bags, are not target material.

Plant Pots

Plant pots have not traditionally fit into the main categories of either plastic pots or rigid items when analysing plastic collected from kerbside schemes. However, with many plant pots being made from polypropylene, they could be accepted by MRFs that already handle PTT. Of all the polymers in the PTT fraction, polypropylene is the most recyclable. However, if plant pots are included in kerbside collections, there are concerns around contamination through residual soil, garden waste and other garden products such as seed trays and ceramic pots that could also be placed for recycling by the consumer.

It has been reported in the *2020 RECOUP Survey* that **53 (14%)** of Local Authorities in the UK accept plastic plant pots in their kerbside recycling scheme.

This is up from 10% in the *2019 RECOUP Survey*. It is worth noting that a considerable number of Local Authorities (**36%**) do not specifically state whether or not they collect plastic plant pots for recycling. Also, there is no indication of the quantities collected as they would be mixed within the PTT stream.

Although contamination concerns need to be addressed around plant pots, their collection remains an opportunity to increase plastic recycling rates from a stream that is often sent to energy recovery or landfill.

There is a distinction to be made about whether plant pots are classified as packaging or non-packaging. The current ruling is that plant pots are classified as packaging except when they are sold containing a plant intended to stay in the pot (for example, a house or patio plant) [39]. Therefore, using current classifications, they could be either packaging or non-packaging when collected as part of households plastics packaging collection schemes.

Non-Packaging Plastics

Non-packaging plastics could include small Waste Electronic and Electronic Equipment (WEEE), such as unwanted or broken toasters, kettles and irons, as well as other small plastic items such as toys. In the *2020 RECOUP Survey*, a total of **15** of Local Authorities (**11%** of respondents to this question) confirmed they collect non-packaging plastics as part of their kerbside collection service.

Although more suited to HWRCs, there are opportunities to collect non-packaging plastic from kerbside schemes with the right financial incentive and investment. Due to the variable composition of these items, it is not possible to report on the plastic quantities that could be recovered, however, it may be something that could be researched if funding were made available.

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Plastic Packaging Performance by Nation

It has always been productive to contrast and compare the different approaches and associated recycling performance across the four separate UK nations. The *2020 RECOUP Survey* has estimated the relative performance of each nation by using two measurements:

- Number of households.
- Collection rates.

Relative Performance – Collection Rates

The relative performance of each nation by their collection rates is based on the plastics packaging POM, which is then split between each nation based on the number of households. This is then compared against the estimated collection quantities for each nation.

England	
Plastic Bottles	59%
Plastic PTT	32%
Plastic Film	7%
Overall Collection Rate	**39%**

Scotland	
Plastic Bottles	52%
Plastic PTT	27%
Plastic Film	4%
Overall Collection Rate	**33%**

Wales	
Plastic Bottles	72%
Plastic PTT	46%
Plastic Film	9%
Overall Collection Rate	**50%**

N Ireland	
Plastic Bottles	55%
Plastic PTT	31%
Plastic Film	4%
Overall Collection Rate	**36%**

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Collection Rates Per Household

When combining the number of households in the UK with the estimated quantities from kerbside collections, it is possible to calculate the average collection rates per household per year from kerbside collection services.

Plastic Bottles

The estimated kerbside collection rate of plastic bottles per household in 2019 was **13.65kg**.

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 **23.13kg**.

Plastic Pots, Tubs & Trays (PTT)

The average kerbside collection rate for PTT in 2019 was **5.69kg**.

If all the PTT consumed in UK households were collected, the collection rate would be **17.77kg** per household.

Plastic Film

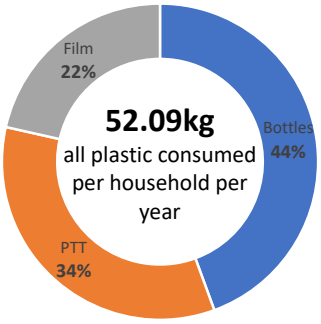
The average kerbside collection rate for plastic film in 2019 was **0.78kg**. This is a slight decrease on the 2018 figure of 0.86 kg.

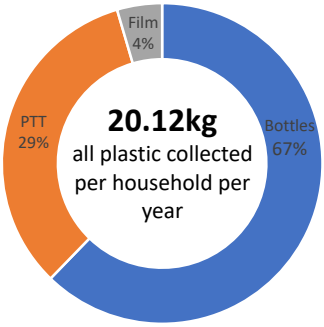
If all the plastic film consumed in UK households was collected, the collection rate would be **11.19g** per household.

Total Plastic Packaging Collected per Household

The kerbside collection rate of 13.65kg for plastic bottles and 5.69kg of PTT makes a total average of **19.34kg of rigid plastics packaging collected per household**. Including plastic films, which only 14% of Local Authorities collect for recycling, this increases the **total plastic packaging collected per household to 20.12kg**.

The average amount of rigid plastic packaging consumed by UK households each year amounts to **40.9kg**. This increases to **52.09kg** if plastic film is included.





Material Reject Rates

In response to a question in the *2020 Survey* about the challenge of contamination, Local Authorities gave details on their reject rates and residual waste outputs for recycling material collected at kerbside.

61 Local Authorities responded to this question and there was an average of **14% contamination** as a total of all material collected. The range was hugely variable, being **as low as 2% and as high as 64%**. These examples are the extremes and not considered to be commonplace.

Certainly, the challenges to reduce this are clear, and significant investment is required in communication and behaviour change programmes in kerbside and 'Away from Home' schemes to reduce contamination and provide a firm footing to base the plastics recycling value chain on.

Actual Recycling Rate

It is important to state that collection data does not reflect actual recycled material quantities.

The figures estimated in this *Survey* relate to what is collected for recycling. This is before the process of recycling takes place and therefore sorting 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.

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Factors & Barriers to Building Successful Collection Schemes

There are several factors that affect the performance of collection schemes. Variables include different housing types (houses, flats, etc.), urban or rural areas, and other 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 greater population density generally have poorer recycling rates.

Local Authorities across the UK report they are making marked improvements. Of the 131 Local Authorities who responded to this question in the *2020 RECOUP Survey*, **27%** reported that they have had particular success in improving the overall performance of their collection services. These included improved recycling from flats, changes to collection logistics, as well as contamination checks and expanding the materials collected.

The *2020 RECOUP Survey* asked the following question:

'*With EPR likely to increase funding into the waste and recycling sector, how would your Local Authority prioritise the spending of these funds?*'

A range of options were presented, with **105** Local Authorities responding. Although the responses varied, **funding collection services** were consistently reported as the highest priority to spend EPR funding, with **funding and investment in infrastructure and capacity** (e.g material sorting facilities) also consistently and widely answered as being a key consideration.

The third highest priority was developing communication strategies, although one waste partnership pointed out:

"*You can have the best vehicles and plant in the world, but if residents aren't using the system correctly then it could be pointless.*"

For some, **developing and delivering communication strategies** was the number one priority. **Cost of complying with new regulations and developing new markets** were considered less important and only one Local Authority answered that **retaining for future investment** was their top priority. This could potentially be due to the timing of the *Survey* being sent out (April 2020), as the impact of COVID-19 will have undoubtedly skewed the priorities of Local Authorities, and their expectations of future budgets.

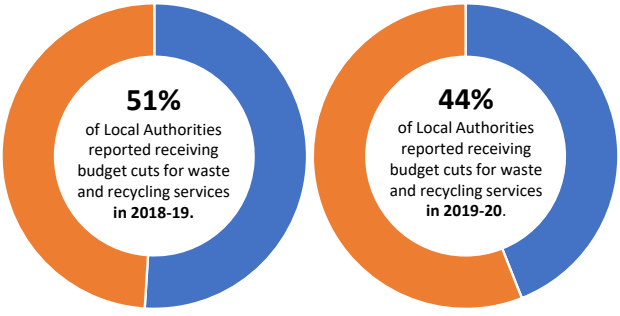
LITTER & COLLECTION 'AWAY-FROM-HOME'

Back in 2018, the RECOUP Survey began studying the issues of litter and fly tipping alongside the approaches Local Authorities adopt to deal with public litter and collection concerns.

In 2019, citizen behaviours around preparation and consumption of goods has continued to move away from home. With the prevalence of pre-prepared snacks and convenience meals available on the high street, conventional mealtimes, locations, and lifestyle patterns are not necessarily applicable today. As a result of these societal changes, consumers require convenient points by which to dispose of their used packaging, and clear signage to make sure the materials are placed in the right bin. Failure to do this has a direct impact on amounts of litter and fly-tipping, with disposal of packaging and larger items being a significant problem that both blight our natural environment and impact heavily on Local Authority spending.

'On-the-Go' bins and management of litter is highly demanding and requires complex operational delivery, challenges which cannot be met until the necessary bin infrastructure, human resource and systems are in place to meet this demand.

In the *2020 RECOUP Survey*, **44%** of Local Authorities reported receiving budget cuts for providing waste and recycling collections or delivery of communications to residents. This is significant, especially when combined with data in the *2019 RECOUP Survey* that **51%** reported receiving budget cuts.



These reductions, combined with Local Authority requirements to manage their already delicately balanced finances across their responsibilities, risk further widening the gap from the current situation to achieving what might be considered a relatively litter free society.

It is important to highlight that the data in, and responses to, the *2020 RECOUP Survey* cover the period up until April 2020. As such, any impact of the COVID-19 pandemic and associated lockdowns will be limited to the end of March. Post-April has seen an unprecedented change in consumer habits and behaviours, meaning that for a period of time (March to June 2020) there was very little recycling or waste disposal 'Away from Home', and instead household collection quantities increased. After the initial lockdown, further varying restrictions across the UK and localised lockdowns in each devolved country at different times, mean that 'Away from Home' disposal levels have yet to return to previous levels, and will be noticeably different to that reported for 2019.

The terms **'Away from Home'** and **'On-the-Go'** are specifically defined as:

'Away from Home' (AfH)
"the disposal/recycling of material by the public anywhere, except at home. This includes OTG, but also disposal/recycling of material at work, school, events, cafes, etc."

'On-the-Go' (OTG)
"the disposal/recycling of material in a public place such as a street, train station, shopping centre, etc."

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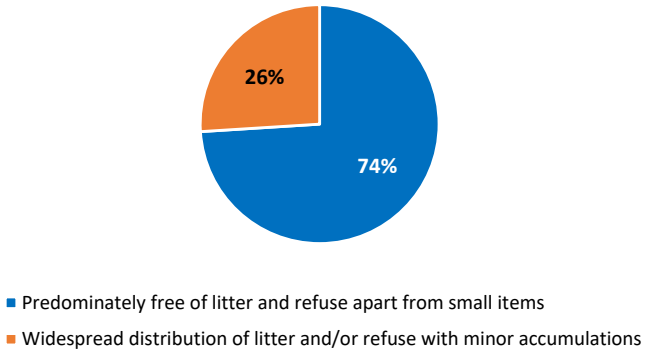
Litter & Refuse

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

Based on the *Defra Code of Practice on Litter and Refuse* [40], Local Authorities were asked in the *2020 RECOUP Survey* to report the level of litter in their area. **74%** felt they were ***"predominately free of litter and refuse apart from small items"***, although **26%** reported **"widespread distribution of litter and/or refuse with minor accumulations"**.



Fly-Tipping

Local Authority concerns around fly-tipping have been increasing year-on-year. This undoubtedly puts more pressure on Local Authority resources and takes considerable time and funding away from managing the clean-up of litter. Fly-tipping is also a concern for residents, and it can affect both urban and rural areas.

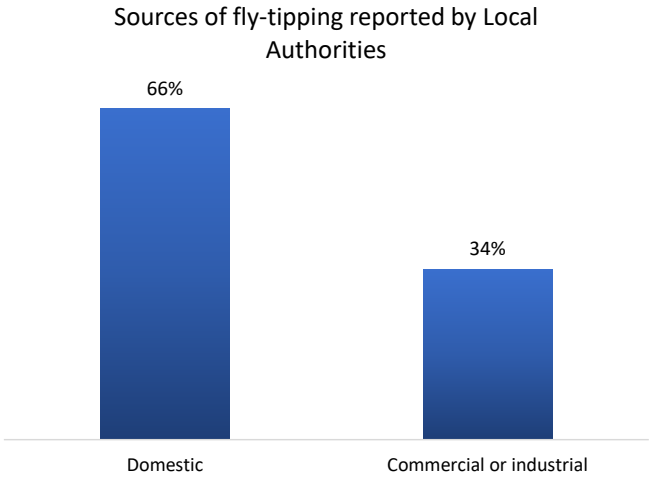
Both fly-tipping and litter require significant budgets to manage. In England alone, keeping the country's streets clean cost Local Authorities almost £700 million in 2018 [41] and the cost of fly-tipping to Local Authorities is nearly £60 million per year [42].

The *Impact Assessment* in the Defra consultation in 2019, *Introducing a Deposit Return Scheme* on beverage containers in England, Wales and Northern Ireland [43] included monetising the negative impacts (disamenity) of litter on public spaces.

The *Litter Strategy for England 2017* stated that living in a littered environment can have negative consequences on people's mental and physical health, creating further strain on local services. Poor local environmental quality can also discourage inward investment and may suppress property prices, damaging local economic growth [44].

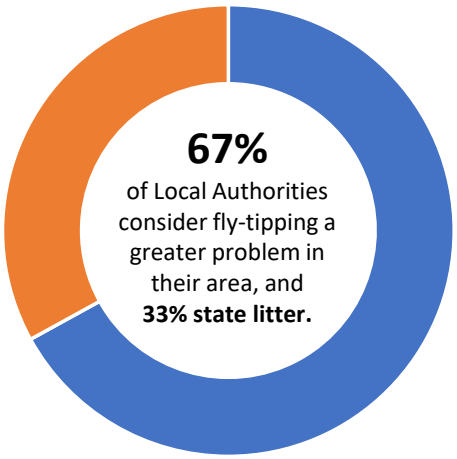
This impact was estimated to be £986m, and although this was considered by some to be subjective and high, it does give an indication of the wider impacts of litter, which are both seen and unseen.

The *2020 RECOUP Survey* can report that **67%** of Local Authorities consider fly-tipping a greater problem than litter. Despite this, **36%** could not determine exactly what source fly-tipping in their area was from. Of those who were able to determine the source, **66%** stated it was from domestic sources, and **34%** commercial or industrial sources.



The 'commercial or industrial' category is unregulated waste from businesses. This could be waste that is illegally disposed of by businesses and offices by placing their waste in black sacks without a waste contract, and leaving it in streets or parking areas. Alternatively, it could be small operators (e.g. a sole builder illegally disposing of loft conversion waste).

Post-March 2020 is likely to see a period of significant changes in respect of litter and fly-tipping, due to the impact of COVID-19. The widespread closures of Household Waste Recycling Centres (HWRC) in the UK reduced available routes of disposal from domestic sources. This is more likely to impact on materials that cannot be recycled at kerbside (e.g. wood, bulky items, waste electronics and electronic equipment (WEEE)).



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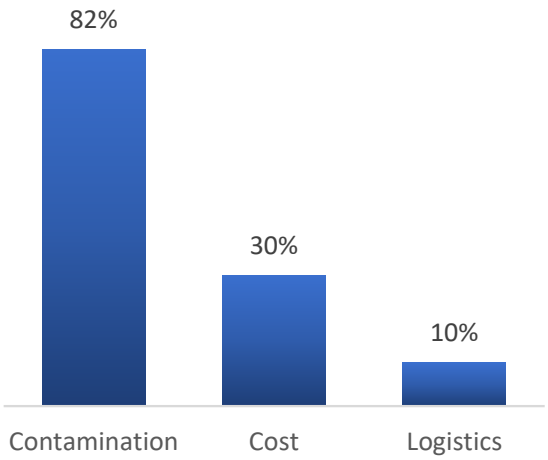
Recycling 'On-the-Go'

Packaging that is disposed of 'On-the-Go' and 'Away from Home' is made up of a myriad of materials and formats, including: drinks bottles; sandwich packs; plastic pots, tubs and trays (PTT); crisp packets; and, disposable hot or cold drinks cups. When recycled, this packaging is often mixed with waste food, liquid or other materials. Finding a recycling solution for such a wide variety and mix of products with high levels of contamination is technologically challenging and comes with a high cost.

The *2020 RECOUP Survey* found that **47%** of Local Authorities stated that they had 'On-the-Go' recycling bins in their area, down from 51% in the *2019 RECOUP Survey*. However, only a small number of respondents were able to provide information on the end destination of this material, and fewer still (**less than 8%**) were able to report material quantities.

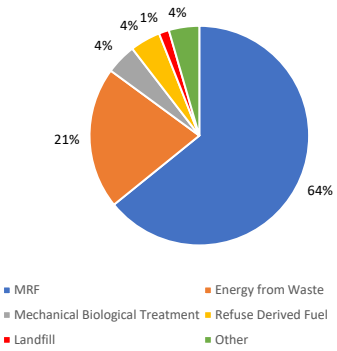
Whilst in previous years a number of Local Authorities reported that they were looking at introducing more recycling provision in busy town centre locations, responses this year suggest that those who have trialled or put limited numbers in place are considering stopping the service. Of those who do not operate 'On-the-Go' recycling bins, **82% cited contamination, 30% cost and 10% logistics** as the reasons for not operating this service.



One Local Authority reported that a trial in their area reported a contamination level of 30 to 40%.

The impact of COVID-19 at the time of the *Survey* being completed by Local Authorities should also be factored in.

Of the Local Authorities who were able to report the end destination of the material collecting through 'On-the-Go' recycling bins, **64%** stated it went on to a Material Recovery Facility (MRF) for sorting. This is mainly because the material is co-mingled with kerbside collections for logistical and cost saving purposes. This could also be due to more contaminated materials in 'On-the-Go' bins being included in the kerbside collection vehicles so the contamination is spread amongst a larger quantity of material. There were still multiple examples where the material was sent to non-circular end destinations, mainly energy recovery sites.



Local Authorities report significant challenges around operating a successful 'On-the-Go' scheme. These not only include the previously mentioned issue of logistics, costs and collections, but also need for citizen communications and education, the need for bespoke units depending on specifics of locations and collection vehicle demands.

Whist contamination is the most commonly reported issue, research suggests that this is because of a lack of general waste bins, public misunderstanding or confusion around bin signage and packaging labelling, and a general lack of effort or caring on part of the consumer. Common contaminates are identified in the *Drinks Recycling On-the-Go* report [45]. These range from residual liquid from hot and cold drink cups (coffee cups, etc.), fast food waste and crisp wrappers, to deliberate disposal of non-recyclable items, with bagged dog waste being cited as a particular issue.

This has led to a different but effective approach by some Local Authorities to recover food and drink packaging disposed of 'On-the-Go'. Where litter and recycling bins are in place, the material is collected as general waste and recyclable materials are recovered through a mechanical biological treatment (MBT) facility before the material goes for incineration or landfill.

Zero Waste Scotland estimated that in Scotland alone there is **£1.2 million** worth of waste disposed of that could be collected through 'Away from Home' and 'On-the-Go' schemes. [46]

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Methods and attempts to effectively analyse and report the material disposed of ‘On-the-Go’, either through collection bins or street sweepings, should be a priority for any additional future financial investment.

With Local Government budgets under pressure, many Local Authorities think their funds are more effectively spent on increasing quantities of material collected and reducing contamination in kerbside recycling and organic waste collections. This makes sense in terms of targeting recovery of materials from the biggest collection streams and increasing overall recycling rates.

For a large portion of recyclable material disposed of 'Away from Home', very little is known about what quantities are collected as general waste, littered or recycled. In 2018, Valpak and RECOUP produced a report on behalf of WRAP, ***Drinks Recycling On-the-Go*** [45], which estimated the consumption, disposal and collection of ‘On-the-Go’ drinks containers. This report estimated that of the **317kt** PET drinks bottles Placed on the Market (POM) at the time, **111kt** were disposed of ‘Away from Home’. An estimated **9% (10kt)** were collected for recycling, leaving over **100kt** of potentially high-quality, recyclable PET bottles not going into the recycling stream. This percentage is on the same level as other drinks containers made from other materials, with 9% of metal drinks cans, 8% of glass bottles, and a maximum of 5% of takeaway hot drinks cups estimated to be collected for recycling from 'Away from Home’ sources.

The Valpak ***PackFlow Covid-19 Phase I: Plastic*** [14] report estimated PET drinks bottle POM was **286kt**, a reduction of **10%** from the previous **317kt**. If the same disposal and collection percentages were applied to this it would mean **100kt** of PET drinks bottles were disposed of ‘Away from Home’ and **9kt** were collected for recycling.

Despite this relatively poor collection rate, consumer insight research used in the ***Drinks Recycling On-the-Go*** report [45] found that citizens perceived collection rates were much **higher than 9%**, at **between 34% and 65%**. This suggests a public willingness to engage with responsible ‘Away from Home’ and ‘On-the-Go’ recycling if, and when, the infrastructure and their knowledge allows.

Collection Rates ‘Away from Home’
Plastic drinks bottles - 9%
Drinks cans - 9%
Glass drinks bottles - 8%
Take away hot drinks cups - up to 5%

NESTLÉ WATERS UK: BUXTON ON-THE-GO RECYCLING

Case Study – Nestlé Waters UK and RECOUP Recycling in Buxton

Nestlé Waters and RECOUP began collaborating on a recycling and education programme in Buxton as far back as 2010. Initially the focus of that programme was on installing recycling bins for 'On-the-Go' recycling with a total of 60 bins placed in the community. The work was underpinned by educational resources under the ***R-Generation*** initiative to educate school children in the Buxton area. This case study outlines the results of a revamp and update of the high street bins carried out in 2019, and the resulting improvement of recycling and achieving low levels of contamination.

Material Assessment Results

Dual recycling and general waste bins were placed around Buxton town centre in 2010. The original bins were all black with some graphic detailing.

By 2018 the bins were looking tired and the recycling and general waste sections could not be easily distinguished.

In 2019 the bins were given a revamp making the recycling provision standout (being colourful and bright) alongside information of the bottle-to-bottle recycling story. The bins were clearly marked with sections for 'cans', 'bottles' and 'general waste'.

The new colourful bins were in situ from early 2020 and a reduction in contamination soon became apparent. In August 2020, RECOUP conducted a material assessment to verify the scheme's success.

"It is wonderful to see that very high recycling rates can be achieved 'On-the-Go' by investing in a programme of on street provision, clear and simple information and sustained education.

"It makes a difference because more valuable recyclable materials can go on to help stimulate the circular economy and a whole lot less goes to waste."

- Hayley Lloyd House, Head of Sustainability
Nestlé Waters UK

BEFORE - 2019

AFTER - 2020

Recycling Rate

The high street bin recycling content was captured and analysed. The material was counted and weighed to assess the amount of target material versus other recyclables and contamination.

- Aluminium cans
- Plastic bottles

79% of the material assessed from all **10** high street bins was either aluminium cans or plastic bottles.

21% of material was non-target, that is everything that is not plastic drinks bottles or aluminium cans. Of this non-target material, **11%** was recyclable and **10%** contamination.

Example of contents from bottle and aluminium can recycling taken from Buxton high street bins.

Contamination

Looking at the level of material that could be recycled and the level of contamination that could only go to landfill, the scheme demonstrates:

- **90%** recycling rate (plastic bottles and pots, glass bottles, aluminium and steel cans)
- **10%** contamination (food, coffee cups, straws and cutlery)

"The easily distinguishable coloured compartments help to reduce contamination by steering people to the correct section for their waste."

- Oliver Bagshaw, Alliance Environmental

This is staggering considering on-street Local Authority schemes average contamination rate is around **51%** of contents by weight.

WRAP's *Drinks Recycling On-the-Go* report [45], from February 2019, reported that contamination rates or 'On-the-Go' schemes vary from **19 - 87%**.

The highest material assessment previously recorded by RECOUP at Buxton was around a **70%** recycling rate (which is still above average) but the bin revamp demonstrates a **20%** uplift on those figures.

"The success of this scheme demonstrates how, through ongoing community engagement, it is possible to drive sustained behaviour change. Colourful, clear, and functional recycling provision is key to success. The residents of Buxton should be proud of how they have shown the way and highlighted what is possible from 'On-the-Go' recycling"

- Anne Hitch, Citizen & Stakeholder Engagement Manager RECOUP

Community Engagement and Education

The work undertaken at Buxton and the results of the high street recycling should not be viewed as standalone and without context. RECOUP has been working with Nestlé Waters UK for 10 years both on school education and community engagement.

Nestlé Waters UK are working with RECOUP and Wastebuster to develop educational resources for Key Stage 2 and 3 with assets to enable school workshops and assemblies. In total over 15,000 children have benefited from the scheme.

RECOUP and Nestlé Waters UK have also engaged on an ongoing basis with the community through Buxton's annual spring fair and carnival events, educating on the recycling journey and inspiring the people of Buxton to recycle.

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HOUSEHOLD RECYCLING INFRASTRUCTURE

Media attention emanating from the 'Blue Plant Effect', legislative changes and recycling targets have increased focus on the ability of the UK's waste management and recycling infrastructure to achieve its ambitions.

As well as having the target of reaching **50%** reuse and recycling of household waste by 2020, the UK and EU are due to see various changes to legislation which will incentivise both recycling and the use of recycled content, increasing the demand for both capacity and material.

With the UK Government publicly addressing various environmental concerns and supporting the building of solid, underpinning foundations for a circular economy in the UK, one of the key pieces of legislation is the design of a ***Plastic Packaging Tax*** [4]. This new tax will be applied to those who produce and import all plastic packaging that doesn't include at least **30% recycled content**. The intended implementation date is April 2022 and therefore there is a level of urgency to understand the impact of this and how it can be achieved.

With around **60%** of plastic packaging exported for recycling every year, 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. These are primarily from:

- Increasing recycled content target requirements.
- To service the ever-increasing ambitious commitments by brand leaders to increase circular and environmentally sustainable manufacturing, including recycled content.
- Manage the potential impact of export market restrictions.

UK Household Plastic Packaging Sorting and Reprocessing Infrastructure Report 2020

To inform and provide context around the recycled content target, RECOUP produced a report [47] which outlines the current status of the infrastructure in the UK to sort and reprocess household plastic packaging. Some of its findings are outlined in this section of the ***2020 Survey*** report.

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. An updated report will be available in 2021.

Please note that measuring capacity of Material Recovery Facilities (MRF), Plastic Recovery Facilities (PRF) and reprocessors are estimated. This is due to various drivers and changes in operations at any given time. This includes, but is not limited to, the quality of input material (feedstock) and natural material yield losses through the washing and flaking processes.

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MRFs receive, separate, and prepare household mixed dry recycling. Mixed material is fed into the system and separated into streams using magnetic, ballistic, and near infra-red technology (NIR). Each fraction is baled and prepared for shipment on to a reprocessor [48].

Material Recovery Facilities (MRF)

RECOUP estimates that there are **110 MRFs** in the UK that have the capability to sort household 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.

Plastic Recovery Facilities (PRF)

There are **7 PRFs** in the UK that sort household plastic packaging. PRFs receive baled plastic from a MRF where it is subject to further sorting. PRFs generally consist of many NIRs and colour sorters with paper and metal removal systems which take: mixed bottles for full separation originating from the smaller MRFs or separate collection systems, and mixed plastic formats from MRFs for further separation. Their aim is to generate high quality outputs.

Material Sorting

It is estimated that the UK has a MRF capacity to sort around **1,600,000 to 1,900,000 tonnes** of plastic packaging from household and commercial sources each year. After factoring in commercial drivers and actual throughput, this amounts to around **825,000 to 1,000,000 tonnes** annually. The estimated PRF operational sorting capacity is approximately **350,000 tonnes** each year. However, due to these facilities processing other materials, a total permitted capacity for plastics cannot be estimated.

1,135,000 tonnes of UK plastic packaging was reported to have been recycled in 2019, **447,000 tonnes** of this was reprocessed in the UK. Material sorting capacity at both MRFs and PRFs, by quantity at least, is not considered to be a barrier to meeting recycling targets.

Plastic Reprocessors

Otherwise known as mechanical recycling, reprocessors are the point at which the plastics (often having been sorted again to remove any impurities) are shredded and washed to remove items including labels, adhesives, dirt, and other contaminants. Polymer types are then separated accordingly. The resulting regrind or flake may then be sold at this point, or it may be melted down and converted into pellet [48].

There are **16 reprocessors** in the UK that manufacture washed flake derived from household plastic packaging. The reported UK plastic reprocessing capacity for these is estimated to be approximately **440,000 tonnes,** with an estimated current actual operational output of **230,000 tonnes**.

Similar to MRFs and PRFs, measuring 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.

There are significant shortfalls in the UK's reprocessing capacity and there are very specific operational and technical challenges around reprocessing plastic film, non-bottle PET and food grade packaging, particularly polypropylene (PP). 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, not only to be commercially viable, but to thrive.

Expanding Infrastructure

In the *2020 RECOUP Survey*, Local Authorities were asked about plans to expand waste management infrastructure in their area. This is not just in relation to plastics, but facilities that process households waste and recycling materials.

Responses showed that a number of Local Authorities have or are aware of plans and proposals for expanding infrastructure. This includes the construction of new facilities, and whilst this is largely focused on energy from waste (EfW) and Household Waste Recycling Centres (HWRC), a number of examples stated that discussions are taking place to create more sorting facilities, or increase the capacity of existing sites.

A tree map proportionately showing plans and proposals to develop management infrastructure in the UK

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CHEMICAL RECYCLING

Chemical recycling (or non-mechanical or feedstock recycling) is a broad term used to describe a number of processes which change the chemical structure of post-use waste plastics by taking the material back to a shorter molecular chain. This is then used to make fuels, or even converted back to the original monomer, then used as feedstock to produce new 'virgin-like' raw materials.

It is widely acknowledged that chemical recycling is not a one-size-fits-all model for plastics recycling and should be used to complement current mechanical recycling, not to replace it.

Mechanical recycling is still seen as the optimum route for recycling plastics and chemical recycling should be viewed as a potential solution for plastics that are otherwise difficult to recycle, such as multi-layered products, films and flexibles, contaminated and coloured or black plastics. It can also process polypropylene and polyethylene that can then be used in food contact packaging.

There are a number of technologies in chemical recycling, and each differs in terms of required feedstock, outputs and yield loss, and the technologies to deliver it. They include:

Pyrolysis the creation of syngas and liquid fuels through the chemical and thermal decomposition of a material at high temperatures and in the absence of oxygen.

Gasification the creation of syngas from the leftover char from Pyrolysis using high temperatures and minimal oxygen.

Solvolysis also known as solvent dissolution, this breaks down certain plastics into monomers with the aid of solvents.

Chemical Depolymerisation turns mono plastic back into monomers, which can be re-polymerized into new products.

Contaminants to Feedstock

One of the main considerations in assessing the potential around chemical recycling is the material it can process. To meet quality standards purification of the feedstock material is always necessary. In theory, chemical recycling should not be competing with good quality feedstock for mechanical recycling, which currently primarily targets PET bottles, natural HDPE and PP packaging.

Different technologies have different potential contaminants. There are various plastic and waste types that can contaminate the chemical recycling feedstock, including, but not limited to: non-plastic materials, individual polymers, PVC, plasticisers, fillers, colourants, and flame retardants.

There are many claims that chemical recycling is the solution to recycle plastics which are not currently recycled due to limitations in mechanical recycling techniques. Similar to mechanical recycling, quality feedstock is a consideration, and therefore material sorting and purification of feedstock is important. The higher proportion of the non-target feedstock, the less effective and efficient the process is.

Technology Providers & Collaborations

There is currently no commercially operating infrastructure for chemical recycling in the EU, but there are various companies and technologies in development with either demonstration facilities, laboratory scale facilities, or investment plans to test and develop the viability of the process and work towards developing chemical recycling capabilities. There have also been many examples of successful trials to create packaging from chemically recycled material, such as the collaboration to produce plastic film cheese packaging which is now sold by Tesco [49].

Whilst the commercialisation of chemical recycling to produce fuels is imminent, recycling back to polymers to use as feedstock to produce new products on a commercial scale is generally reported to be 5-10 years away.

What Next?

It is clear that one technology will not be the solution. it can't be oversimplified and it's a complex area that will require multiple approaches.

Although it is starting to happen, an increase in widescale investment and collaborative partnerships spanning the whole plastics value chain is needed in order to make chemical recycling a successful and realistic option for recycling plastics.

With chemical recycling considered to be a complimentary solution for recycling otherwise hard-to-recycle plastics, other solutions must also contribute. Design for recyclability and high-quality material from collection schemes and sorting operations should still be the aim to maximise material quality, whatever the recycling solution that is used.

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PLASTIC WASTE CRIME

Waste crime is a global issue and one that is central to many of the widespread environmental news stories about plastics and the effects it has on nature and ecosystems across the world. Waste crime can come in many forms, including fly-tipping, burning waste materials, and littering. This can take place on a small scale, such as domestic litter, to much larger, commercial scales of dumping materials. Cleanup largely comes under the responsibility of Local Authorities, and with a Duty of Care legislation [50] for the safe management of waste in place, tackling waste crime is always an essential priority.

Plastic Packaging Exports

One of the material streams commonly connected to waste crime is exports. The use of export markets has played a central role in the development of UK plastic packaging recycling for many years, and helps the UK towards meeting its recycling targets.

In the first half of 2020, around **64%** of the UK's plastic packaging was exported for recycling. For a number of years this has been around 60%. Export markets can be unpredictable, with some countries placing restrictions or bans on importing recycling material.

In terms of authorities and the waste management providers responsible for the disposal of recycling material, export of material creates an increased risk that material falls into a non-recycling stream, or at worst, ends up in an uncontrolled waste site.

The use of export markets is a prime strategic consideration for the UK's recycling sector. When export market restrictions are coupled with the changing regulatory framework around how the UK manages its packaging waste, the dynamics of exporting baled plastic packaging could change significantly, or, in a combination of circumstances, stop altogether.

In order to gain the critical mass to meet auditable recycled content targets for plastic packaging the balance is expected to shift to more domestic recycling in the UK, particularly in light of the UK Plastics Packaging Tax [4] specifying the need to include **30% recycled content** to avoid paying the **£200 per tonne** tax.

As this balance shifts, collecting quality material at source from kerbside or other collection services, delivering high quality sorted material from Material Recovery Facilities (MRF) and Plastic Recovery Facilities (PRF), and having the capability to reprocess that material in the UK play essential roles.

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Basel Convention Amendments

There have been legislative developments that effect the export of recycling. On 1 January 2021, the ***Basel Convention*** [51] will be amended to strengthen the controls for the export of waste plastics by changing the coding for plastic waste exports.

These changes mean that only plastics which are destined for recycling operations, consist of almost exclusively one type of plastic type, and are almost entirely free from contamination (a maximum allowance of 2%) can continue to be exported as 'Green List' waste. Mixtures of polypropylene (PP), polyethylene (PE), and polyethylene terephthalate (PET) can also continue to be exported under 'Green List' controls on the proviso they are destined for separate recycling. All other plastic exports must be notified and receive specific consent for export prior to any shipment [51].

As this is guidance, it would not be legally binding for EU member states and it is not clear at this stage how this will impact exporters of material from the UK after Brexit.

The Good, The Bad and The Ugly of Plastic Exports

There are a number of factors to be considered when making the distinction between what can be considered high-quality and what is less attractive plastic recycling material. There are generally considered to be three types of exported material – the good, the bad and the ugly.

The majority of household plastic packaging exported for recycling is good quality and has a value. How bad and ugly exports are approached is pivotal to how the UK invests in the next phase of managing its waste and recycling resources to meet its aims and targets.

The Good

This is high-quality recycled plastics that can be used as raw materials to manufacture a range of new products, supporting the building of circular economy models. These are mainly baled plastic material but could also include clean flake or extruded pellet.

Good quality material makes up the majority of household plastic packaging exported for recycling.

The Bad

In the UK, Packaging Recovery Notes (PRN) and Packaging Export Recovery Notes (PERN) are the mechanisms used to implement the requirements of the European Directive on Packaging and Packaging Waste to show evidence a packaging producer has met its obligations to fund the recovery and recycling of packaging waste.

The system is seen to disadvantage UK recyclers as the PERN can be claimed against the total weight of the material, which includes contamination and non-target material. Whereas if it is recycled in the UK, contaminated and non-target material must be removed, with a PRN only issued when plastics are reprocessed into granules, pellet or flake for use as a raw material in manufacturing of new products. This means that the same material sent for export can receive PERNs on a higher quantity of material, and therefore value, than if the material is recycled in the UK.

Complexities around PRNs and their favourability towards exporting materials mean that foreign markets are often more financially viable, all-be-it often not seen as the ethical or environmentally favourable solution. The disruption in the export markets and higher recycling targets have meant that PRN prices have seen significant changes in recent years. As such, up until recently the UK has not had to financially justify investment in infrastructure to develop plastic packaging recycling on a self-sustaining scale.

In the past, it has been easier and more profitable for some companies to export material rather than process it in the UK, and as such exporters have often outbid UK reprocessors for material.

The Ugly

This is illegal and unethical activity which makes up a minority of material exported from the UK.

Well publicised examples of where illegal export of poor-quality material has taken place affect how the UK is seen to manage its waste packaging, especially when creditable and effective UK waste management providers are producing good quality material to be recycled either in the UK or overseas. These sites should be effectively policed or closed.

This illegal activity encourages the use of a lower cost-based recycling model in developing or non-OECD (Organisation for Economic Co-operation and Development) member countries which pushes the responsibility onto others to sort and recycle the material. This leaves the current UK Packaging Producer Responsibility System open to fraud by effectively claiming PERNs for poor quality, non-target or contaminated material, creating potential health risks for workers and for the material to be illegally disposed of in unregulated waste sites.

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Good Export

Quality Export Builds a Circular Economy

- Prior to export, plastic materials are collected for recycling and sorted in the UK by reputable companies with clear and auditable material flows.
- The exported materials will be high-quality and support Circular Economy principles by providing valuable material that can be sold and recycled into new plastic packaging or other products.
- The type and quality of plastic fits or exceeds feedstock requirements of countries importing material.

Bad Export

Packaging Producer Responsibility System Disadvantaging UK Recycling

- Plastic materials are collected for recycling and sorted into various plastic types either in the UK or overseas.
- The current packaging producer obligation system incentivises the export of material and this disadvantages UK recycling when the material could have been reprocessed in the UK.

Ugly Export

Illegal Export of Material is Fraudulent and Causes Environmental and Health Risks

- Plastic materials are collected for recycling and exported for profit, possibly illegally, without it undergoing the necessary processes to ensure good quality material.
- This pushes the responsibility onto others to sort and recycle the material, leaving the UK open to fraud, creating potential health risks and situations where the material could even be illegally disposed of in unregulated waste sites.
- Illegal exports of poor material are a relatively small quantity, and these operation should be policed and closed.

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Waste Compliance Taskforce

A forum for collaborative, cross-sector working to improve awareness of and compliance with waste regulations, increase resilience to waste crime, and engage with UK environmental regulators and policy makers to support more effective ways to prevent and tackle waste crime.

The UK's Waste Compliance Taskforce (WACT) launched in October 2020, heralding a new way of working together to tackle one of the waste and recycling sector's biggest issues.

WACT comprises of a number of organisations from across the public and private sector, including regulators, trade associations, landowners, businesses and charities. This will raise awareness of waste crime and work towards combating it by helping businesses and organisations to be compliant. It will do this through numerous working groups which will aim to understand, tackle and ultimately reduce waste crime, covering the issue from all angles.

The aim is to gather and share intelligence about waste crime and to understand some of the challenges being faced by certain waste streams. It plans to use this intelligence to design interventions to tackle waste crime, and to communicate what it has learnt to help influence policy and legislative changes.

WACT Strategic Aims

1 Provide a forum for collaborative, cross-sector working.

2 Improve understanding of and compliance with waste regulations.

3 Increase resilience to waste crime.

4 Engage with environmental regulators to support more effective ways to prevent and tackle waste crime.

WACT Strategic Aim

Stuart Foster, RECOUP CEO and Chair of WACT: "*Waste crime is the scourge of our industry. It's estimated that it costs the UK economy around £1 billion a year but it also potentially puts lives at risk and erodes the public's trust in the waste and recycling sector. It's crucial that we all come together now to tackle this from every angle so that the organised criminals who are making money out of illegal activities involving the UK's waste are stopped once and for all.*"

WACT's remit is separate to that of the Joint Unit for Waste Crime (JUWC) which was launched by the Government at the start of 2020, as part of its ***Resources and Waste Strategy***. The JUWC is made up of law enforcement agencies, environmental regulators, HMRC (Her Majesty's Revenue and Customs) and the National Crime Agency, and its remit is to enforce the law.

UK Governments and the resources and waste sector are already working more closely in this area, and WACT, with its wider membership, has an important contribution to make to the development of smarter and more effective frameworks to deal with waste crime.

Export Waste Crime Working Group

One of the newly formed working groups, led by RECOUP, is the Export Waste Crime Working Group, which has an initial focus on plastics.

The group aims to tackle fraudulent and exploitative users of recycled markets and the negative PR and media impact linked to 'ugly' exports. It does this by engaging with the UK's environmental regulators and other stakeholders to support more effective ways to prevent and tackle the illegal activity that is blighting the industry.

There are no quick or simple fixes to these challenges, but the group has seen positive steps in terms of engagement and open dialogue with the regulators. RECOUP looks forward to carrying this positive activity forward into 2021 to both tighten the controls around illegal exports and to increase confidence in the UK as a good exporter of quality material.

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COMMUNICATIONS & BEHAVIOUR CHANGE

Communications to citizens are crucial to driving up collection quantities and reducing contamination. There remains a gap between the desire to recycle and the reality. While there is hope that the reform of the UK Packaging Producer Responsibility System will result in a strategic citizen communications and behaviour change fund, there remains much to be done in terms of relating to citizens what can or cannot be recycled and how to prepare packaging for recycling.

The *2020 RECOUP Survey* explores many of the considerations and challenges in Local Authorities communicating and engaging their residents to both recycle more plastics and present it in the right way.

So Much More To Do

In September 2019, YouGov surveyed over 2,000 UK adults asking for their views on recycling. The majority (**83%**) said that more needs to be done to encourage recycling in the UK, and only 12% said that they think they get all the help they need [52].

Better Local Authority collection services was the top mentioned item with better information on what can be recycled also high on the list.

Focus for Communication Campaigns – Reduce Contamination

The political and business need to recycle more plastics in the UK and increase recycled content in packaging and other products creates the need to reduce contamination in the first stage of the recycling process. How the consumer performs is the important first building block to producing a high performing recycling sector in the UK.

This was backed up in the responses from Local Authorities in the *2020 RECOUP Survey* where Local Authorities reported to be focusing on reducing contamination has increased considerably in recent years.

What is your Local Authority's main focus for communications to residents?	
Reducing contamination	**57%**
Increasing collection rates	**31%**
Introducing new plastics types to collections	**4%**
Other	**8%**

Local Authorities focusing on reducing contamination has increased considerably in recent years, and this has been reflected in the delivery of communications. In the *2017 RECOUP Survey*, 10% of Local Authorities were focusing purely on reducing contamination, and now it is **57%**.

Are you currently communicating, or have you within the last 12 months, with householders on the importance of reducing contaminations and / or how to present their plastics for recycling?	
Yes	**82%**
No	**18%**

In the *2020 Survey*, **82%** of Local Authorities who responded to the question said they are currently communicating, or had communicated, with residents on the importance of reducing contamination, and how to present their plastics for recycling.

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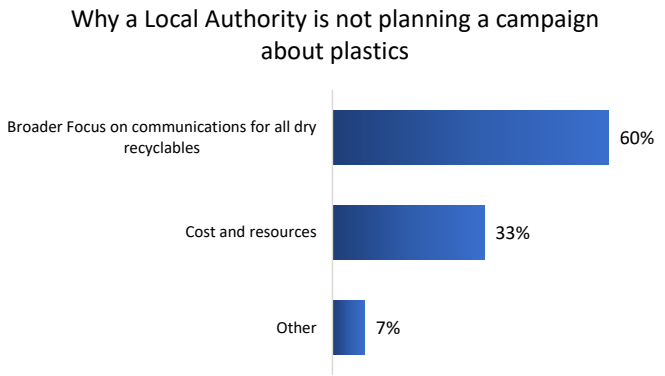
Increasing material quality is a key area of interest for RECOUP and it is the primary strategic *Pledge2Recycle Plastics* communication message. The reasons for running a plastics recycling campaign could include increasing capture of target plastic material, reducing contamination, or introducing or changing a service. As plastics are in the public's conscious, more so now than ever before, Local Authorities are showing an increased interest in running communication campaigns to their residents.

46% of Local Authorities reported planning a communication to residents about plastics recycling.

Is your Local Authority planning a communication to residents about plastics recycling, either as an individual authority or part of a wider county or partnership campaign?	
Yes	**46%**
No	**54%**

Of those not planning a campaign about plastics, over **60%** said this was due to their authority taking a broader approach to communicating with residents about all dry recyclables. A total of **40%** primarily cited **cost and resources** for not planning a campaign.



Local Authority Instructions to Residents

Consistent collections are not only about the range of materials collected from households and businesses, but how they are presented for recycling. In the *2020 RECOUP Survey*, all Local Authority websites were checked about the instructions they communicate to their residents.

Messages on Local Authority websites vary across the UK, often down to the very instruction they are giving. This is particularly evident when looking at whether Local Authorities ask residents to leave lids on plastic bottles or remove them.

The *RECOUP 2020 Survey* found that **22%** ask to keep lids on, and **29%** ask for them to be removed, with **49%** providing no guidance or say they could be left either on or off.

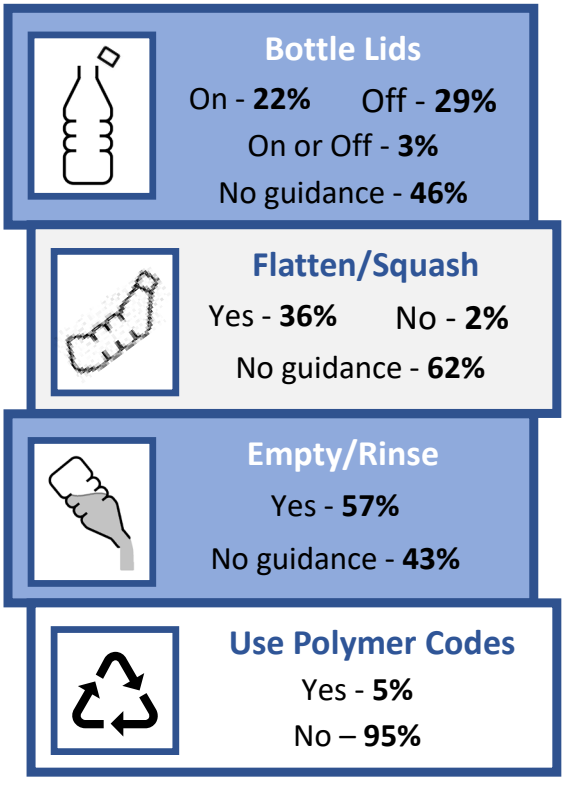
To a far lesser extent, the same mixed message can be seen around squashing or flattening bottles, with **36%** asking residents to do this, and just **2%** specifically asking residents not to squash the bottles. **62%** didn't include any guidance about squashing or flattening bottles.

Although there maybe sorting operational issues at Material Recovery Facilities (MRF) around the equipment to pierce bottles before they are compacted and baled, there are many benefits to collecting attached lids to bottles. Squashing bottles and re-attaching lids gives the lid a chance of being recycled with the bottle, as well as reducing the size of the item, and helps to prevent possible liquid contamination from the bottle getting onto other recyclables.

In terms of liquid and food contamination for bottles and pots, tubs and trays (PTT), only **57%** of Local Authorities include an instruction to empty and rinse the plastic packaging. RECOUP believes this would be useful on all Local Authority communications.

This demonstrates the variation in messages to residents across the UK. If something so fundamental as keeping lids on or off is so diverse then the challenge for common ground and guidelines for other areas will take time to unpick.

The benefits of consistent messages on how to present plastic packaging for recycling would directly reduce the confusion citizens face, and ultimately result in a reduction in contamination and more positive collection rates.



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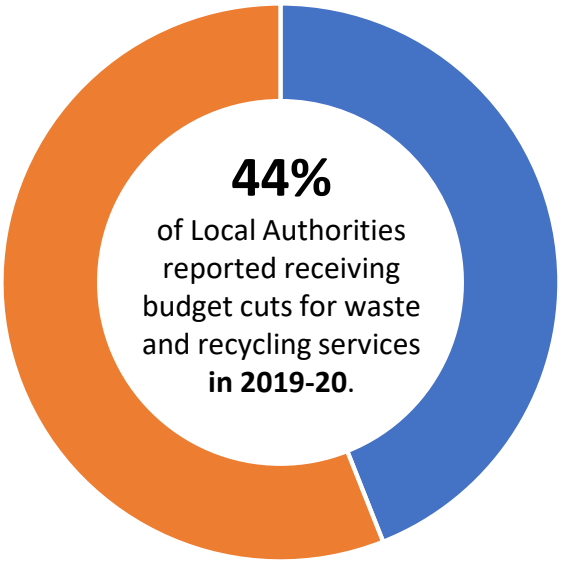
Budget Considerations

Without financial investment in consumer communications, recycling rates and material quality will stagnate or decrease, at a time in which demand, public perception and rising recycling targets begin to apply more pressure on Local Authorities to recycle more.

Budget spent on communications to householders typically provides value for money and reduces overall spending, and it can directly reduce disposal tax and gate fee charges from target recycling material ending up in general waste streams.

In the *2020 RECOUP Survey*, **44%** of Local Authorities reported receiving budget cuts for providing waste and recycling collections or delivery of communications to residents. This is significant, especially when combined with data in the *2019 RECOUP Survey* that **51%** reported receiving budget cuts.

Although it is not clear whether budget cuts specifically apply to collections, communications, or both, this reported data shows that anticipated funding from Extended Producer Responsibility (EPR) cannot come soon enough and will help to channel funds towards producing dedicated consumer communications and behaviour change campaigns.



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EFFECTIVE PLASTIC RECYCLING COMMUNICATIONS

Plastics recycling communications to citizens remain a challenge to drive sustainable and long-lasting behaviour change. Because of the complexity of this type of packaging, with its many forms and varieties, it is a challenge to communicate all the variances to enable easy decision-making.

As we move towards a more consistent range of plastic packaging being collected kerbside, and as RECOUP, and others, continue to drive recyclability by design, the exceptions to the rule will diminish. It is important to keep building on the message as citizens begin to take on board recycling principles. Being able to trust that what is placed for recycling ends up in new products is a key part of ensuring long-term sustained behaviour change. An understanding of what happens to the packaging as it is collected, sorted, and reprocessed also helps to give context as to why individual behaviour is so crucial to collective success.

Trust and Education

Misleading media headlines can cause citizens to question if what is claimed is being recycled, is, and if the material is being turned into new products or energy from waste or landfilled. With headlines like *"Plastics Recycling is a Myth – What really happens to Your Rubbish"* in The Guardian [53], it is easy to understand why we are, at times, failing to engage.

Building trust is key to sustained behaviour change. The media rhetoric around plastics continued with Hugh Fearnley-Whittingstall and Anita Rani encouraging consumers to have a '*War on Plastics*' [54]. The programme highlighted the issue of exported plastics ending up in places which were not its original intended destination. It does not take many negative images of plastics in foreign lands dumped in natural environment to disengage citizens on the recycling message.

Meanwhile householders remain unsure about what their recycling is indeed turned into and how this happens. 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. The Pledge team would encourage all Local Authorities to add www.pledge2recycle.co.uk details to their web site pages. Remember, the team are willing to have the conversations via Twitter and Facebook direct with householders on plastics to help dispel the myths and keep encouraging their efforts.

Reuse and refill options are becoming an important part of the consumer offering in the high street. RECOUP and *Pledge2Recycle Plastics* supports the Waste Hierarchy message alongside conversations on the importance of resource efficiencies and carbon savings. Consumers are opening to the idea of making the right choices and are becoming wise to any green wash, making this the right time to embark on some of those wider conversations to reduce unintended consequences and assist citizens in their understanding of end of life solutions.

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Pledge2Recycle Plastics

RECOUP's national plastics recycling communications and behaviour change initiative, ***Pledge2Recycle Plastics***, has been working for several years to cut through the confusion of plastics recycling. While the team have been unable to get out into the community throughout 2020, they have been engaging with local influencers, other Non-Government Organisations (NGO) and individuals using social media platforms.

Communications Resources Pack

Knowledge gained throughout years of consumer activations, surveys and observational study underpin the development of education and communication resources in the ***Pledge2Recycle Plastics Resource Pack***, which can be downloaded for **FREE** from www.pledge2recycle.co.uk.

The Pack aims to provide Local Authorities, businesses and educational establishments with information and content which can be utilised to equip citizens to recycle with confidence. The pack includes graphics and information aimed at giving the detail about plastics recycling, where and how the material is recycled, and the possible end markets. The pack is aligned to ***Recycle Now*** and examples in the pack that demonstrate the two brands can be utilised.

The asset artwork is aimed at giving householders detail on plastics recycling and also ensuring that they understand what not to put into mixed dry recycling (MDR). It also provides advice on how to best prepare those items that can be recycled. The pack gives information on how ***Pledge*** can be aligned with ***Recycle Now***.

Watch Me Think – Behaviour Research Study

Although this study was completed in 2019, it remains relevant in terms of citizen confusion and indicates the many reasons why plastics recycling remains complex and confusing for citizens. ***Pledge2Recycle Plastics*** communications aim to help consumers navigate their way through the mass of different types of plastic packaging and understand just what is recyclable and what is not.

The report and video are available for download for **FREE** on the ***Pledge2Recycle Plastics*** website at www.pledge2recycle.co.uk..

The key areas that confuse remain:

- Labelling and understanding what those labels mean in terms of recycling. The ***Green Dot*** symbol continues to complicate the decision-making process.
- Cleaning and willingness to clean packs before recycling can mean this ends up in general waste by default. Consumers remain unclear about how clean recycling needs to be.
- Bits that may need removing before recycling, such as pump sprays, trigger sprays, lids, film lids and absorbent layers. Whether to leave in or out, on or off, are only some of the complications.

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Citizen Engagement Projects

All citizen event engagement planned in 2020 were postponed due to COVID-19 restrictions. It is hoped that we will be able to resume our event programme summer 2021.

Social Media

Pledge2Recycle Plastics has been developing their social media accounts throughout 2020 and now have a good following on Instagram, Twitter, and Facebook. Please follow us, share and like.

@Pledge2Recycle
@Recoup_UK

Pledge 2 Recycle

@Pledge2Recycle
@Recoup_UK

Social media campaigns in 2020 included **#dontthrowonthego** and **#stopitdontdropit** anti-litter messaging. The campaigns highlighted the issue with COVID-19 litter (such as masks and gloves) as well as challenging the loss of value from **#recycling**, and encouraging citizens to take their empty bottles home for recycling. Other campaigns have included around how Halloween theme on **#recycling** needn't be scary.

The *Pledge* team have a full social media plan for 2021. For further information please contact the *Pledge* team.

Newsletter to Local Authorities

RECOUP's Citizen and Engagement team have launched a new newsletter, *PLEDGE2LOCAL* as part of their *Pledge2Recycle Plastics* work. The newsletter demonstrates our continued commitment to plastics recycling not only by supporting the work of the wider plastics resource and recycling industries, but also with Local Authorities, waste partnerships and other local interest groups. Plastic is a truly sustainable and circular resource, and positive consumer behaviour change is central to tackling ongoing ambitious targets and circular economy aspirations. By working together, we can provide a consistent message to help boost these results.

The first edition of the newsletter aimed at Local Authorities was released in November 2020. If you are not on the mailing list, please contact: Amanda.Bakewell@recoup.org.

Interest in Match Funded Pledge2Recycle Plastics Campaign

RECOUP continues to look at funding streams to bring together Local Authorities and the value chain to deliver *Pledge2Recycle Plastics* campaigns. This has been a challenge in 2020, however it is hoped that in 2021, we will once again be able to deliver campaigns on the ground direct to citizens.

In this *2020 RECOUP Survey*, Local Authorities were asked if they would be interested in a match funded arrangement with *Pledge2Recycle Plastics* to deliver a plastics education and communication campaign to residents in 2021. **60%** responded positively to this question.

Let Us Know What You Are Planning!

Please let the *Pledge* team know if you are planning a plastics communication in 2021. We would like to help you where and when we can.

Remember, we have the ability to give you more assistance if you are RECOUP members. If you are interested in membership please contact: Rebecca.Davis@recoup.org.

RECYCLED PLASTICS MARKETS

In recent years, global attitudes and regulation towards waste and plastics have changed considerably, with end markets and values of plastics collected for recycling being displaced and transformed as a result. In the face of unique challenges in 2020 this is set to continue.

Export Markets & the UK Recycling Rate

Politically in the UK, there is a continuing shift to focus investment on capacity to sort, reprocess and recycle materials within the country. However, there will need to be a robust approach to export markets to bring this change about.

Countries from Asian markets, particularly **China**, who 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.

These worldwide changes have created significant challenges to the waste export markets, with many countries not having the infrastructure or capacity to recycle plastic waste generated in their own country. Some more developed European countries have greater capacities for sorting and reprocessing plastics, including use of energy recovery. However, the financial incentives created by the packaging producer obligation system and use of Packaging Recovery Notes (PRN) and Export Packaging Recovery Notes (PERN) to export material for recycling has historically made export markets of Asian countries, and their cheaper labour to sort these materials, more attractive.

As covered in the *Plastic Waste Crime* section of this report, in the UK, there is still a heavy reliance on export markets, which is both to Organisation for Economic Co-operation and Development (OECD) and non-OECD member countries.

It remains a challenge to audit market flows and precise end destinations, especially where intermediate traders are used. Transparency about end destinations of exported materials should be high on the agenda as the UK shapes its strategy for the future.

PRNs or PERNs

(Packaging Recovery Note or Packaging Export Recovery Note)

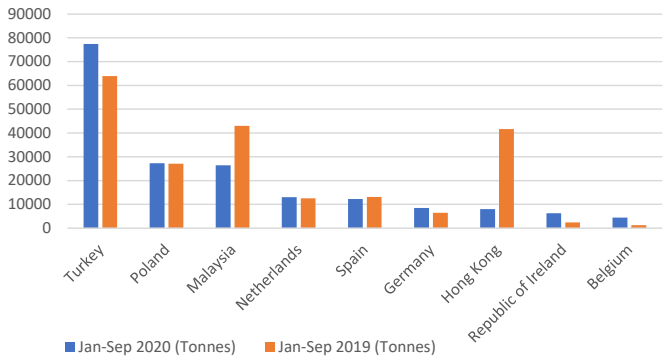
The **mechanisms used in the UK** to show evidence a packaging producer has met its obligations to **fund the recovery and recycling of packaging waste** – a requirement of the **European Directive on Packaging and Packaging Waste.**

The system is **seen to disadvantage UK recyclers** because:

The PERN can be claimed against the **total weight of the material** including contamination and non-target material.

If it is recycled **in the UK contaminated and non-target material has to be removed** and a PRN is only issued when **plastics are reprocessed** into granules, pellets or flakes for use as a raw material in new products.

Data provided by *REB News* compared the end destinations of plastic packaging exported for recycling between January-September 2019 and during the same period in 2020. This shows the reduced quantities going to Hong Kong and Malaysia and the increasing reliance on **Turkey**. However, in late 2020, restrictions on the import of plastic waste were announced in Turkey, the UK's main export destination in 2019 and 2020, and this will disrupt the volatile export market even further.



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Plastic Packaging Recycling Rate

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

For 2019, NPWD reported preliminary figures of **1,135,000 tonnes** of plastic packaging declared as recycled from all sectors. Plastic packaging collected from households accounts for just over **49%** of the UK's total recycled plastics. In 2019, **60% (688,000 tonnes)** of the total recycled was exported and **40% (447,000 tonnes)** was recycled domestically. With **2,290,000 tonnes** Placed on the Market (POM), this is a recycling rate of **49.5%**. The remaining **50.5% (1,155,000 tonnes)** is not collected for recycling and therefore goes to landfill or energy recovery end destinations.

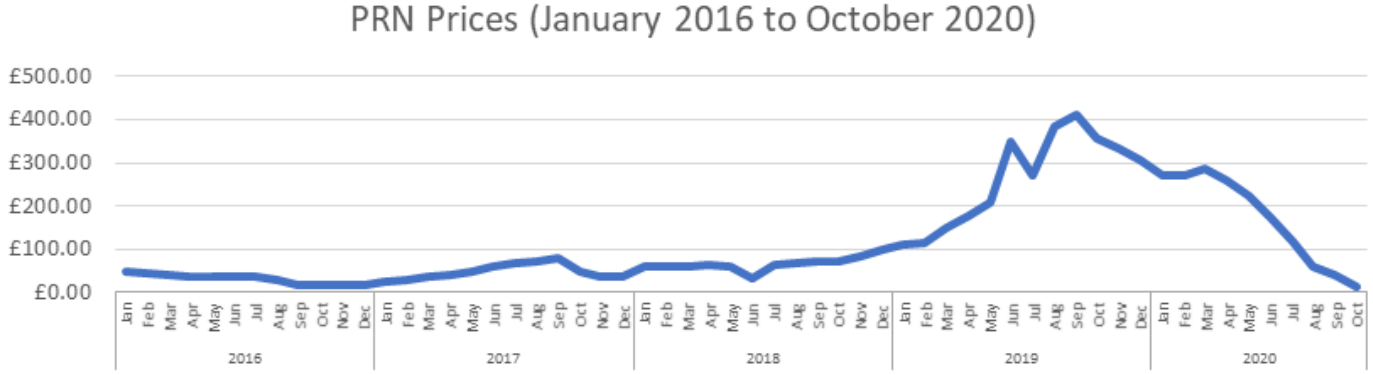
Market Intelligence

Plastics packaging recycling continues to provide income generation, employment and business opportunities for Local Authorities, waste management and reprocessing providers, but 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 going into 2020 with the impact of COVID-19 on operations, as well as the fall in both oil and PRN prices making economic conditions less favourable when looking at recycling or use of recycled content in new packaging and products.

As with all material commodities, the value of plastic collected for recycling changes due to market conditions. With landfill and energy from waste taxes and gate fee costs in the UK, the business case to recycle plastics can be viable with the right financial and fiscal support, with the role of PRNs and PERNs featuring strongly.

Complexities around PRNs and their favourability towards exporting materials mean that foreign markets are often more financially viable, all-be-it often not seen as the ethical or environmentally favourable solution. The disruption in the export markets and higher recycling targets have meant that PRN prices have seen significant rises over the years. However, in 2020, these prices fell hard from highs of over **£400 per tonne in August 2019 to just £10 per tonne in October 2020**.

These extremes highlight the complex and potentially volatile nature of this market and how the packaging producer responsibility system, or EPR, needs to be able to control and stabilise any future version of PRNs to be transparent about where and how they are used.



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REB Market Intelligence

PAUL SANDERSON, REB MARKET INTELLIGENCE

The story of 2020 for the recycled plastic market has not been COVID as such, but the Packaging Recovery Note (PRN) and Packaging Export Recovery Note (PERN).

Clearly, COVID had a big impact on consumption patterns with less away-from-home use of drinks bottles and more material needing to be collected from the domestic stream. With many shops closed at various points in the year, or suffering from lower sales, commercial packaging such as film was not as available with the exception of supermarkets. The COVID pandemic also led to lower oil prices and this helped to push down the price of virgin material. In turn, this tended to put downward pressure on many recycled plastics grades, although not all.

But as mentioned above, it has been the PRN that has dominated conversations among plastics recyclers and producers this year.

The PRN started the year at around £300 per tonne, carrying on from the high prices seen in 2019 (when £400 had been exceeded for some weeks). By the end of February, the price had peaked at around £340 per tonne, then slowly started to lower as the National Packaging Waste Database (NPWD) monthly and quarterly figures increasingly showed the UK was set to meet its targets.

By June, the PRN was trading below £200 per tonne, and by July was below £100 per tonne and kept going down. It was at less than £5 per tonne at the time of writing at the end of November.

These figures just didn't seem to make sense to the legitimate traders in the recycling market.

While the high PRN in 2019 and early 2020 had led to some investment in UK recycling facilities, plus attracted more attention from European buyers, with export markets largely closed (with the exception of Turkey, Malaysia and for the first part of the year Hong Kong), many questioned where all this material that was supposedly being recycled was actually going.

With COVID also leading to less packaging material being available for collection, apart from domestic streams and supermarkets, people got concerned that something wasn't right with the NPWD figures.

The fear is that the high PRN prices attracted fraudulent behaviour from an illegitimate minority that undermined the whole system for genuine recyclers who lost financial support for their recycling operations as the year went on. Producers that believed they were paying for their obligation to be recycled may have unwittingly provided funds to illegitimate activity.

Only time will tell if these suggestions of fraudulent behaviour were accurate or if there were other factors at play that meant the targets were being legitimately met.

With the end of the Brexit transition on the horizon, and a deal not yet negotiated at the time of writing, this is also creating uncertainty about how easy it will be to recycle plastics in EU countries next year with fears arising over lorry queues, potential import duties faced by the recycler and additional paperwork.

Plus, from January 2021, the new Basel Convention rules come into effect that means it will be impossible to export mixed polymer grades to most countries without prior notification. This has been a challenging year for plastics recyclers, but despite those challenges they have proven resilient on the whole.

To end on an optimistic note, there is a lot of hope that measures such as the proposed Plastic Tax and Environment Bill, the EU levy on non-recyclable plastic, plus consumer and forward-thinking business desire for more recycled plastic content will provide financially and economically stable foundations for the future.

*If you would like a free four week trial to REB Market Intelligence (**www.rebnews.com**), please email paul.sanderson@harosa.com to request it.*

Value of Plastic Bottles Collected for Recycling in the UK

Plastic Bottles

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

The highest values for collected plastics are when plastic bottles are sorted into their main fractions – clear and light blue PET, natural HDPE and mixed HDPE. However, coloured PET and mixed bottles values are nominal and, in some cases, negative.

Using estimates and assumptions, the following analysis provides a clear demonstration of the additional value of sorting plastic bottles to refined fractions.

Mixed Plastic Bottles

Using the *REB Market Intelligence* material price index, **1 tonne of mixed plastic bottles typically attracted an average price of £101 per tonne in 2019** – this was around £50 per tonne in 2018. This uses a combination of 'A Grade Mixed Plastic Bottles' (includes more clear PET and natural HDPE) and 'Grade B Mixed Plastic Bottles' (includes more Jazz PET and HDPE).

Mixed Plastic Bottles

377,000 tonnes of plastic bottles collected for recycling represented a potential value in 2019 of around **£38 million**.

Real prices in 2019 ranged from **-£10-£300 per tonne**.

Sorted Plastic Bottles

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

Clear & Light Blue PET

£280 - £450 per tonne with an average of **£340**.

Natural HDPE

£550 - £700 per tonne with an average of **£602**.

Value of Plastic Bottles Not Collected for Recycling

The estimated **257,000 tonnes** of plastic bottles not collected for recycling from UK households provides an indication of the potential value and disposal costs for these bottles.

Although it would be an impossible view of the financial implications, an indication of the differentiation of recovery versus non-recovery of plastic bottles can be calculated. This is calculated based on the potential value of plastic bottles not collected for recycling, as well as average landfill and incineration costs. An average MRF gate fee of **£25** is removed from the calculation. **12%** of Local Authorities that do not pay a MRF gate fee and the extra material is integrated into existing collection services at no additional cost.

Using the average £101 per tonne mixed bottle value, the unrecycled bottles would have a potential value of just under **£20 million** in 2019.

Based on a number of assumptions about energy from waste (EfW) versus landfill end destinations, £89 per tonne median EfW gate fee and £116 per tonne median landfill tax and gate fee for non-hazardous waste (landfill tax £91.35 per tonne and median MRF gate fee of £25 per tonne) these bottles would cost over **£25** to dispose of.

If there were a 100% bottle collection rate, there would be an additional **£52 million** benefit to disposal Authorities in the UK versus the current situation today.

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Value of Plastic Pots, Tubs & Trays (PTT) Collected for Recycling

Although **85%** of Local Authorities are now collecting PTT at kerbside, the mixed content of polymers, increased food contamination in comparison with plastic bottles, their inherent recyclability and limited end market options mean they are not attracting positive values.

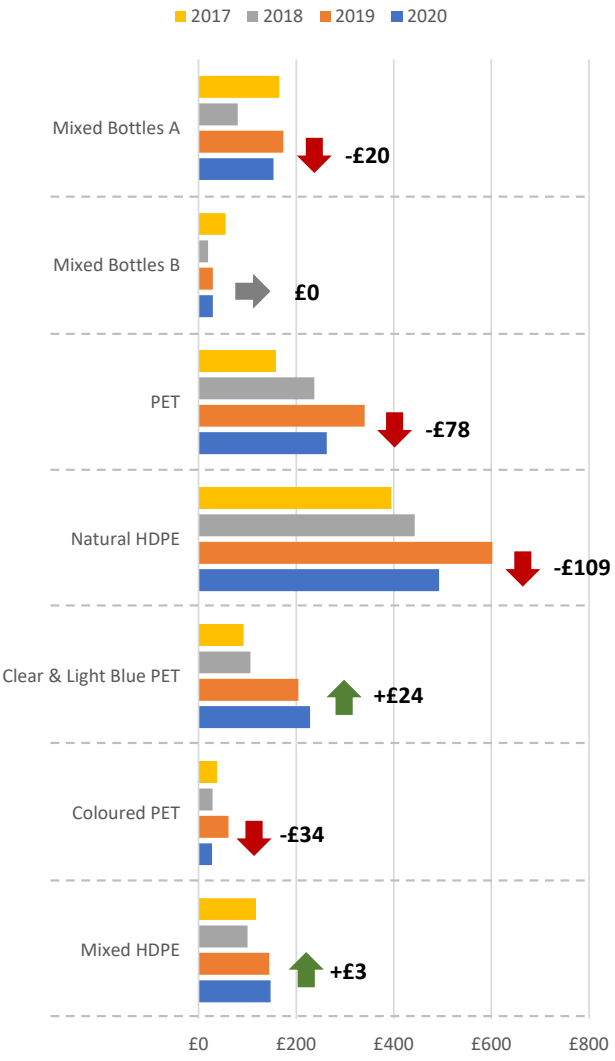
The value of PTT depends primarily on the level of polyolefin content (PP and PE plastics) and level of contamination but may still be favourable compared to energy recovery or landfill options. Any positive prices reported are likely to refer to material that also includes plastic bottle content, which inflates the value, or are subjected to several appropriate sorting processes to extract the valued polyolefin plastics. However, as of winter 2020, plastic prices have fallen across the board due to the impact of COVID-19, and lower quality plastics including coloured PET and mixed streams have seen negative values.

It is not realistic to put a potential figure on the benefit of collecting the estimated tonnage entering the household waste and recycling systems, or the estimated quantities that are collected for recycling, but an indication of the scale of costs to dispose of PTT can be estimated.

If all the estimated 494,000 tonnes of PTT consumed were disposed of in 2019, based on a number of assumptions about EfW versus landfill end destinations, £89 per tonne median EfW gate fee and £116 per tonne median landfill tax and gate fee for non-hazardous waste (landfill tax £91.35 per tonne and median MRF gate fee of £25 per tonne), the disposal costs would be nearly **£47 million** per annum.

Based on the same assumptions, 333,000 tonnes of PTT not collected for recycling in 2019 would incur disposal costs of over **£32 million** per annum.

Therefore, the actual cost of disposal is somewhere between **£32m and £47m.**



Plastic Price Trend

The graph on the right shows the fluctuation of plastic prices since 2017. Data from REB News and Let's Recycle.

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POLICY & REGULATION

The policy and regulation around plastics packaging remains in transition during 2020-21 with plans continuing to develop for the proposed Plastic Packaging Tax [4], and further consultations to refine Extended Producer Responsibility (EPR) [2], Deposit Return Systems (DRS) [5], material collection consistency [3], single use plastics directives [55], and other related topics. Momentum also continues to build around wider global strategies to reduce the impacts of plastic in the environment and move towards resource efficient and circular economy systems with significantly more recycle, reuse and refill infrastructure. The key legislation, targets and political position at the time of writing this report in November 2020 is outlined in this section.

UK Plastic Recycling Targets

In late 2020, Defra published the packaging waste recycling targets for businesses in 2021 and 2022 [56]. These are targets placed on the producer value chain from the polymer and packaging producers through to the retailers.

The new business targets for plastic packaging recycling **rise by 2% each year: 57% in 2020, 59% in 2021 and 61% in 2022**. In real terms, this is expected to achieve actual plastic packaging recycling rates of lower than this as not all plastic packaging falls within the producer obligation system.

These updated targets bring the UK broadly in line with targets set in the EU Directive. Concessions have not been made for the COVID-19 pandemic and the associated impacts and restrictions, as there is expected to be a fall in the amount of plastic that has been Placed on the Market (POM). This will lead to a reduced level of obligated quantities in 2021, and with if there is continued strong export markets and developing UK reprocessing infrastructure, these targets appear achievable. The targets are set for recycling only, and in a change to previous targets do not include an overall recovery target. As such, energy from waste sites cannot be accredited and will not be able to issue PRNs (Packaging Recovery Note) after this compliance year.

UK Packaging Recycling Business Targets 2018- 2022:

	2018	2019	2020	2021	2022
Paper	71.0%	73.0%	75.0%	79.0%	83.0%
Glass	76.0%	79.0%	80.0%	81.0%	82.0%
Al	58.0%	61.0%	64.0%	66.0%	69.0%
Steel	79.0%	82.0%	85.0%	86.0%	87.0%
Plastic	53.0%	55.0%	57.0%	59.0%	61.0%
Wood	38.0%	43.0%	48.0%	35.0%	35.0%
Recycling	73.6%	74.5%	75.4%	76.00%	77.00%

There are no specific household plastic or plastic packaging recycling targets placed on Local Authorities in the UK. However, there is an **EU target for the UK to recycle at least 50% of household waste by 2020** [30]. The UK recycling rate for waste from households in the UK in 2018 was **45.7%**. A long-standing issue is that these targets use a weight-based metric so plastic, and quality of material may not be prioritised in favour of recycling heavier materials in order to help achieve these requirements. Potential alternative metrics such as carbon have been discussed for many years but not yet progressed.

UK Consultations and Policy Development

Building on the commitments set out in the *25 Year Environment Plan* [57] and *Resources and Waste Strategy* [58], work has continued around the development of three key 2019 consultation topics of:

- Reforming the UK Packaging Producer Responsibility System through EPR [2]
- Consistency in Household and Business Recycling Collections in England [3]
- Introducing a Deposit Return Scheme (DRS) in England, Wales and Northern Ireland [5]

Further consultations are anticipated in 2021 to clarify the direction, strategy, and implementation options in these areas with anticipated implementation from 2023 onwards. This is expected to deliver some significant policy interventions that will help increase UK plastic packaging recycling and recyclability of plastic packaging placed on the market.

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The Full Net Cost

The key principle of the UK Packaging Producer Responsibility System and use of EPR [2] is to fund the full net cost of managing the collection, transport, sorting, reprocessing and disposal of used packaging, whilst also funding consumer communication campaigns and the clean-up costs of littered and fly-tipped packaging.

Underpinning all of this is reforming the UK Packaging Producer Responsibility System, including EPR, that should be designed to increase investment in recycling systems and incentivise packaging to be recyclable and recycled.

Devolved Governments – Consistency, Deposit Return Systems and Single Use Plastics

The Government consultation on consistency in household and business recycling collections would also increase the quantity and quality of the material collected for recycling. This is to be achieved by having a core set of materials and products that should be presented in the same way for recycling regardless of where you live or travel to. This is specifically in relation to 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) have a ***Household Recycling Charter*** [20]. Wales has an overarching waste strategy document, ***Towards Zero Waste*** [59], and has its established ***Collections Blueprint*** [21], and Northern Ireland has a waste management strategy, ***Delivering Resource Efficiency*** [60]. The devolved administrations may choose to continue with their own regulations and policies in order to achieve their own ambitions.

Single Use Plastics

The Welsh Government issued a consultation in line with ***Article 5 of the EU Single-Use Plastics Directive (EU) 2019/904*** [61] to reduce single use plastics in order to tackle marine litter coming from the most common single-use plastic products. This closed in October 2020. This covers a range of single use items including plastic cotton buds, cutlery, plates, beverage stirrers, straws and balloon sticks, EPS (expanded polystyrene) food containers and EPS cups. It is expected that 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 and environmental impact assessments.

Alternative products may be less sustainable and could result in continued increase in littering, it is therefore important to assess the alternatives to the products outlined. There are a range of measures that could also be used to decrease littering and increase the amount of post-consumer plastic waste entering the recycling stream, some of which are expected to be captured within the EPR developments.

Likewise, the Scottish Government, through their ***Programme for Government 2020*** [62] also committed to meet or exceed the standards set out in ***Article 5 of the European Union Single-Use Plastics Directive*** [61]. A consultation closes in January 2021.

The Scottish Government have also further developed their implementation plans for a DRS, which is due to go live in July 2022.

Plastic Packaging Tax

The key aim of this tax is stated by UK Government to: *'Provide a clear economic incentive for businesses to use recycled material in the production of plastic packaging, which will create greater demand for this material. In turn this will stimulate increased levels of recycling and collection of plastic waste, diverting it away from landfill or incineration.'* [4]

The key principle of the *Plastic Packaging Tax* is a **£200 per tonne** tax rate for plastic packaging with **less than 30%** recycled content.

The *Plastic Packaging Tax* consultation responses summary was published in November 2020 [63], and HM Treasury and HMRC will focus on implementation plans during 2021 in preparation for an **April 2022** launch.

Respondents to the consultation agreed with the majority of the proposals, but it also acknowledges a number of areas which have been amended or clarified including where the tax point applies in the producer chain, and ensuring competitiveness of UK manufacturers. There are ongoing considerations as to how this policy fits with EPR plans and how the infrastructure can be supported to deliver the required amount of recyclate for UK plastic packaging to meet the tax requirement. Importantly the auditing and policing of the system will be critical to success, and RECOUP will be identifying the best approaches for a *Recycled Content Verification System* (RCVS) in the UK.

The UK Government also published draft *Plastic Packaging Tax* primary legislation for technical consultation [64], which closes in January 2021. This covers the tax scope definition, who will be liable to register and pay, exclusions, tax collection, enforcement and relief. Following consultation, the Government will introduce this legislation in a future *Finance Bill*. The Government will then publish secondary legislation and guidance giving more detail, which is recognised as essential for businesses to prepare properly for the introduction of the tax and to meet the new requirements from April 2022.

UK Plastics Pact

The *UK Plastic Pact* [65] is a scheme led by WRAP (Waste and Resources Action Programme), made up of retailers, packaging companies and producers, as well government organisations and Non-Government Organisations (NGO), seeking plastic solutions in order to generate a circular economy.

A *Roadmap to 2025* [66] outlined the ambitions and targets, challenges and solutions, and actions required to meet them.

The *UK Plastic Pact* [65] 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 effectively recycled or composted.
- **30%** average recycled content in plastic packaging.

Integrated into Government 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 ensure the collective RECOUP and *Pact* members work in an intelligent and logical way. 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, that could ultimately increase carbon emissions and an even greater recycling challenge for the UK.

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Beyond the UK

European Circular Economy Package

The vision, main commitments for action and measures to implement them for Europe's '*New Plastics Economy*' are outlined at EU level in the *European Commission's European Circular Economy Package* [67]. The Package brings with it a range of ambitious waste and resource measures as well as recycling targets aimed at stimulating Europe's transition towards a circular economy whilst boosting global competitiveness, delivering sustainable economic growth and generating new jobs.

The regulations surrounding these being focused around legislative amendments and the new *EU Strategy for Plastics in the Circular Economy*, the associated *Action Plan* and a *Single Use Plastics Directive* [67].

In 2015, the European Commission put forward an ambitious *Circular Economy Action Plan* [68] and in 2018, the first set of measures was complemented by the second *Circular Economy Package* [67], including An *EU Strategy for Plastics in the Circular Economy* [69] and annexes to transform and measure the way plastics products are designed, produced, used and recycled.

On 4 March 2019, the European Commission adopted a report on the implementation of the *Circular Economy Action Plan* [68], which presented the main achievements under the Action Plan and outlined future challenges whilst working towards a climate-neutral, circular economy where pressure on ecosystems is minimised.

The *Action Plan* was communicated as being completed, its 54 actions have been '*delivered or are being implemented*' [68], i.e. included or being actioned in legislation, strategy, methodology development, stakeholder platforms and reports, even if the work on some of them continues beyond 2019.

A European Strategy for Plastics in a Circular Economy

The European Commission's '*A European Strategy for Plastics in a Circular Economy (January 2018)*' [70] is part of the EU's *Circular Economy Package* [67] and addressed three interrelated issues:

- A current high dependency on virgin fossil feedstock.
- A low rate of recycling and reuse of plastics.
- A significant leakage of plastics into the environment.

It outlined a vision for Europe's new plastics economy to develop "*a smart, innovative and sustainable plastics industry*", including:

- Reducing the leakage of plastic into the environment by transforming the way products are designed, manufactured, used and recycled.
- Making better use of taxation and other economic instruments to reward the uptake of secondary plastics.
- Putting in place well-designed EPR schemes, support recovery and recycling schemes including introducing deposit return incentives, particularly for beverage containers.
- The relevant aims and targets in the vision include, by 2030, all plastics packaging placed on the EU market is to be either reusable or can be recycled in a cost-effective manner.

The EU directive for waste management is the *Waste Framework Directive* [71], which is an overarching legislative structure for the management of waste in EU countries, monitoring and setting targets relating to the recycling rate of household and municipal waste, plastics and packaging and landfill use for the EU member states.

It includes the current:

- Plastics packaging recycling target rate for the EU member states of **22.5%**, which has been exceeded by many EU countries.
- Target for all member states to prepare for reuse or recycle **50%** of their household waste by 2020, not just plastics.

A revised waste legislative framework entered into force in July 2018 outlining "*ambitious yet realistic recycling rates*" [67]:

- Recycling **55% of municipal waste by 2025, 60% by 2030 and 65% by 2035**.
- Recycling **65% of all packaging by 2025 and 70% by 2030**.
- Recycling **50% of plastic packaging by 2025, and 55% by 2030**.
- Reduce landfill to maximum of **10% of municipal waste by 2030**.

The municipal and plastics packaging recycling rates for the UK are around **45%**. Examples of the challenge is shown by the municipal recycling rate by country against the **22.5% plastics packaging and 50% 2020 municipal recycling rate targets**.

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Single Use Plastic Directive

The ***Single Use Plastics Directive*** [55], finalised and published on 5 June 2019, is part of the ***EU Plastics Strategy and Circular Economy Action Plan*** [67] and is primarily targeted at reducing marine litter.

On 21 May 2019, the EU adopted the measures proposed by the Commission to: *'Tackle marine litter coming from the 10 single-use plastic products most often found on European beaches, as well as abandoned fishing gear and oxo-degradable plastics.'* [67]

Specific targets as part of this directive include:

- **77%** of plastic bottles to be collected for recycling by 2025, and 90% by 2029.
- **25%** recycled content from 2025 for PET bottles and 30% from 2030 for all beverage bottles (note the HMT Plastic Packaging Tax states 30% recycled content for plastics packaging).
- Ban on selected single-use products made of plastic for which alternatives exist on the market

EU Plastic Waste Levy

The European Union is to introduce a levy on plastic waste from January 2021 as part of a €750 billion coronavirus recovery fund agreement. A levy of **€0.80 per kilogram (€800 a tonne)** will be applied specifically to plastic packaging waste.

Proceeds from the levy will go directly to the EU, but it will down to individual countries to decide how to implement the requirement, possibly in the form of a tax. The tax will be composed of a share of revenues from a national contribution calculated on the weight of non-recycled plastic packaging waste. This will mean producers will be charged per gram of unrecyclable plastic they use, as opposed to minimum recycled content regulations as proposed in the UK. With the UK having left the EU and yet to agree a deal, it is unclear what impact the introduction of this levy will have.

Development of new Global Treaty on Plastic Pollution

The UK is supporting plans for a new global agreement to address the plastic pollution crisis, for coordinated action on marine plastic litter and microplastics. Eighty world leaders from all regions and the EU signed a pledge for nature in September 2020 [12], this includes the UK. It is anticipated that this could be a United Nations (UN) treaty similar to the ***Paris Agreement*** on the climate crisis [72].

Plastic Waste Exports After Brexit and Basel Convention Guidance

From 1 January 2021 there are new arrangements for the movement of plastic waste from the UK. Amendments will strengthen the controls for the export of waste plastics. The changes mean that only plastics which are recycled, almost exclusively one type of plastic and almost free from contamination can be exported as '***Green List***' waste. Mixtures of polypropylene (PP), polyethylene (PE) and polyethylene terephthalate (PET) can also continue to be exported under '***Green List***' controls on the proviso they are separated. All other waste plastic international movements will require '***prior informed consent***' (PIC) from the competent authorities of dispatch, transit and destination.

The ***Basel Convention*** [51] has been ratified by the UK Government and, along with the ***OECD Decision,*** has been implemented across the European Union through the relevant Waste Shipments Regulation. The full list of plastic wastes subject to prior informed consent requirements can be viewed on the ***Basel Convention*** website (www.basel.int). The overarching objective of the ***Basel Convention*** [51] is to protect human health and the environment against the adverse effects of hazardous wastes. Its scope of application covers a wide range of wastes defined as "hazardous wastes" based on their origin or composition and their characteristics, as well as two types of wastes defined as "other wastes", household waste and incinerator ash.

The UK will be treated in the same way as any other OECD country or any country party to the ***Basel Convention*** [51] that intends to export waste to an EU country. The current waste shipments procedures will still apply, with exporters required to follow EU customs guidelines and ***EU Waste Shipment Regulations*** [73]. The Environment Agency (EA) has published a ***Proposed Regulatory Approach*** [74] and ***A Guide to Moving Notified Plastic Waste Internationally*** [75] on 20 November 2020 ahead of the changes on 1 January 2021.


Environment Agency

Proposed Regulatory Approach for Basel Amendments

Overview

Implementation of the Basel Changes

Operational Interventions

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ACRONYMS AND ABBREVIATIONS

- *AD - Anaerobic Digestion*
- *AfH – Away from Home*
- *BBC – British Broadcasting Corporation*
- *CoSLA – Convention of Scottish Local Authorities*
- *DMR – Dry Mixed Recycling*
- *DRS – Deposit Return Scheme*
- *EA – Environment Agency*
- *EC – European Commission*
- *EfW – Energy from Waste*
- *EPR - Extended Producer Responsibility*
- *EPS – Expanded Polystyrene*
- *EU – European Union*
- *HDPE - High-Density Polyethylene*
- *HWRC – Household Waste Recycling Centres*
- *IV – In-Vessel Composting*
- *JUWC - Joint Unit for Waste Crime*
- *KG - Kilogram*
- *KT – Kilotonne*
- *LA – Local Authority*
- *LARAC - Local Authority Recycling Advisory Committee*
- *MBT - Mechanical Biological Treatment*
- *MRF – Material Recovery Facility*
- *NAWDO – National Association of Waste Disposal Officers*
- *NGO – Non-Government Organisation*
- *NIR – Near Infrared*
- *NPWD – National Packaging Waste Database*
- *OECD – Organisation for Economic Co-operation and Development*
- *OTG – On-the-Go*
- *PE - Polyethylene*
- *PET - Polyethylene terephthalate*
- *PIC - Prior Informed Consent*
- *POM – Placed on the Market*
- *PP – Polypropylene*
- *PRF – Plastic Recovery Facility*
- *PRN – Packaging Recovery Note*
- *PERN – Packaging Export Recovery Note*
- *PTT – Pots, Tubs and Trays*
- *RCVS - Recycled Content Verification System*
- *RDF - Refuse Derived Fuel*
- *RECOUP – Recycling of Used Plastics*
- *SDG – Sustainable Development Goal*
- *RVM – Reverse Vending Machine*
- *UK – United Kingdom (England, Scotland, Wales and Northern Ireland)*
- *WACT – Waste Compliance Taskforce*
- *WEEE – Waste Electronic and Electronic Equipment*
- *WRAP – Waste and Resource Action Programme*

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UK HOUSEHOLD PLASTICS COLLECTION SURVEY

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