

# Plastics Management and Recycling at Household Waste Recycling Centres in the UK

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# RECOUP

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### **Executive Summary**

In total, across the UK, there are in the region of **1,025** Household Waste Recycling Centres (HWRCs), facilities that allow residence to bring and dispose of a wide variety of materials and items not commonly collected through kerbside schemes.

These sites provide a relative unknown in terms of plastics that could potentially be captured from currently non-circular waste streams. To investigate this opportunity, RECOUP has undertaken research into the amount of plastic in this waste stream, as well as the practices and movement of this material. This report has expanded from previous versions to include data from all of the UK devolved nations, creating a more robust data set. This has also enabled recommendations of interventions that would enable plastic disposed of at HWRCs to fit into circular economy models and potential further steps to build on this research.

There is variation from site to site in terms of which types of plastics are accepted and how they are separated and treated in respect of other material streams. There is also variation by devolved nation, with Northern Ireland in particular having more, smaller scale sites in comparison to the rest of the United Kingdom (UK). The management of these facilities also varies, with some owned and managed by local authorities, some by third-party contractors, and others a combination of the two.

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

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

After engaging with local authorities and waste management providers, RECOUP estimates that there is in the region of over **120,000 tonnes** of rigid and hard plastic and plastic packaging disposed

of at HWRC sites in the UK, in both separated plastic and residual waste streams. This amounts to an average of between **2-3kg** of waste per household in the UK.

Data in the previous version of this report was collated in 2020, focusing on England only, and was measured at the beginning of the Covid-19 pandemic, and before the updated population figures for England and Wales were released from the *2021 Census*. Due to the significant impact the pandemic had on HWRCs, their operations, and the volume of material they received, the data in this updated report is considered more reflective of typical volumes received through these facilities.

Placing a value on this material is somewhat arbitrary due to the significant variation in plastic types and the potential for contamination. However, it is possible to show the significant cost associated with the disposal of this material through gate fees and landfill taxes. Using averages for each of the disposal methods available in the 2022 RECOUP Household Plastic Packaging Collection Survey <sup>1</sup>, it can be estimated that the disposal of the **120,000 tonnes** of plastic by landfill, Refuse Derived Fuel (RDF) and EfW (Energy from Waste) would cost in the region of **£13 million** in taxes and fees, based on 2022 averages. The value of potential Packaging Recovery Notes (PRNs) may also be a benefit to factor in, but would only apply to any packaging element of the material. As there is limited data available on what proportion of HWRC waste is packaging, this has not been included in this report.



A summary of the Packaging Recovery Note (PRN) and Packaging Export Recovery Note (PERN) system for the UK.

<sup>&</sup>lt;sup>1</sup> RECOUP UK Household Plastic Packaging Collection Survey 2022

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

A robust data-led system is needed to help rectify the current absence of collated, accurate and thorough data to enable:

- A greater understanding of both the composition and volume of plastic material that is disposed of at HWRCs annually.
- A better understanding of the variation between the four devolved nations and the impact of this.
- A greater understanding of the end destinations for plastics currently collected at HWRCs to identify what proportion is sent for recycling, reprocessing and reuse in the UK, how much is sent for landfill, incineration, and other non-circular outcomes, and how much is exported. At present, the destination for these materials known to local authorities is likely one step removed, particularly concerning sorting and export, with the final outcome for these materials often unknown.
- Greater investment in UK reprocessing infrastructure capacity for rigid and hard plastics typically disposed of at HWRC sites to create new raw materials that can provide feedstock into a range of end markets. This is to rectify the known shortfall in UK reprocessing capacity, especially in regards to 'hard-to-recycle' plastics as identified in the 2022 UK Plastic Packaging Sorting & Reprocessing Infrastructure report<sup>2</sup>.
- Further development of re-use centres, where items disposed of are recovered, repaired and sold on. This helps to reduce the overall amount of material placed into waste streams, especially that which is 'hard-to-recycle' <sup>3</sup>.

#### RECOUP has identified two further steps to build on this research:

- While this report has gathered data and evidence around the types and quantities of materials and how they are managed at HWRCs across the UK, this could be built upon further. The variables associated with each devolved nations, and the way they manage their materials at HWRCs, provide different solutions for each.
- Investigation into how other countries, particularly those in Europe, manage rigid and hard plastic through kerbside and non-kerbside schemes.

<sup>&</sup>lt;sup>2</sup> RECOUP UK Plastic Packaging Sorting & Reprocessing Infrastructure Report 2022

<sup>&</sup>lt;sup>3</sup> https://wrap.org.uk/resources/guide/re-use/benefits-re-use



### Background

The United Kingdom (UK) and European Union (EU) are continuing to set ambitious and continually rising recycling targets, reuse targets, and restrictions and increase taxation for landfill and incinceration of waste. This, combined with increased demand for recycling through policies such as the reform of the UK producer responsibility system, known as Extended Producer Responsibility (EPR) <sup>4</sup>, means that there is a need for more materials to be captured and recycled, particularly domestically.

Other legislative changes include HM Revenue & Customs' (HMRC) UK Plastic Packaging Tax, which requires predominantly plastic packaging placed on the UK market to contain **30%** recycled content, or face a **£210.82** per tonne (as of April 2023) tax <sup>5</sup>, and the EU Circular Economy Package <sup>6</sup>. There is also momentum for a Deposit Return Scheme (DRS) to be introduced across the UK <sup>7 8</sup>, a push to increase the quantity and quality of material collected for household and business recycling through consistency <sup>9 10</sup>, restrictions and bans of certain single-use plastics <sup>11 12</sup>, changes to recycled plastic in food-contact applications across the UK and EU <sup>13</sup>, among other upcoming environmental policies.

Each devolved nation also continues to push separate legislative drivers, including Northern Ireland's adoption of the EU Single-Use Plastic Directive <sup>14</sup> as per the Northern Ireland Protocol <sup>15</sup>, Scotland's

<sup>&</sup>lt;sup>4</sup> www.gov.uk/government/consultations/packaging-and-packaging-waste-introducing-extended-producerresponsibility

<sup>&</sup>lt;sup>5</sup> www.gov.uk/guidance/check-if-you-need-to-register-for-plastic-packaging-tax

<sup>&</sup>lt;sup>6</sup> https://ec.europa.eu/environment/circular-economy/

<sup>&</sup>lt;sup>7</sup> www.gov.uk/government/consultations/introduction-of-a-deposit-return-scheme-in-england-wales-and-northern-ireland

<sup>&</sup>lt;sup>8</sup> https://depositreturnscheme.zerowastescotland.org.uk/

 $<sup>^9\</sup> www.gov.uk/government/consultations/consistency-in-household-and-business-recycling-in-england$ 

<sup>&</sup>lt;sup>10</sup> www.gov.wales/proposals-enforcing-business-public-and-third-sector-recycling-regulations-wales

<sup>&</sup>lt;sup>11</sup> www.theguardian.com/environment/2023/jan/14/october-start-set-for-ban-in-england-of-single-use-plastic-tableware

<sup>12</sup> www.bbc.co.uk/news/uk-wales-politics-63880012

<sup>&</sup>lt;sup>13</sup> www.efsa.europa.eu/en/applications/foodcontactmaterials/regulationsandguidance

<sup>&</sup>lt;sup>14</sup> https://environment.ec.europa.eu/topics/plastics/single-use-plastics/eu-restrictions-certain-single-use-plastics\_en

<sup>&</sup>lt;sup>15</sup>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/840230 /Revised\_Protocol\_to\_the\_Withdrawal\_Agreement.pdf

planned implementation of a DRS from August 2023, and single-use plastic bans in Scotland from August 2022<sup>16</sup>, and England<sup>17</sup> and Wales<sup>18</sup> later in 2023.

All of these changes could impact on the sustainability credentials for all products, formats and materials, as well as implications on how they are designed, and their end-of-life management, including defining at what stage they become waste. The rising cost of gate fees and taxes for landfill and incineration for waste materials <sup>19</sup> also impacts how materials are likely to be managed. Legislative drivers aim to address the challenges of waste plastic post-use. According to *Plastic the Facts 2022* <sup>20</sup>, plastic converter demand was **3.4 million tonnes** in the UK, in 2021.

The following scenarios are taken from RECOUP's 2022 Plastic Packaging Sorting & Reprocessing Infrastructure Report<sup>21</sup>, exploring the impact on the UK's current infrastructure and reprocessing capacities:

#### 1. 30% recycled content in all plastic packaging placed on the market

There is almost a **45kt** shortfall in reprocessing capacity in the UK to provide 30% recycled content for all its placed on the market household plastic packaging.

#### 2. 30% recycled content of rigid household plastic packaging placed on the market There is an excess of less than 9kt of reprocessing capacity in the UK to provide 30% recycled content for all its rigid household plastic packaging placed on the market.

### 3. The export market is not available as an outlet for the UK to recycle its plastic packaging and meet the 51.5% recycling target for 2022

Under optimal conditions with no yield losses, the UK has between **550kt to 755kt** excess sorting capacity to meet the recycling targets for 2022. However, based on current actual operational throughputs, the UK would not be able to handle the full volume of material and would have an operation throughput shortfall for sorting of between **45kt and 245kt**. Under these same conditions, the UK has a current reprocessing capacity shortfall of just over **511kt**. However, if the 30% target set by HMRC's UK Plastic Packaging Tax and the UK Plastic Pact<sup>22</sup> is applied for reprocessing, the UK has an excess reprocessing capacity of just over **291kt**.

Household Waste Recycling Centres (HWRC) provide a relative unknown in terms of the quantities of available plastics that could potentially be diverted from non-circular waste streams. This may be due to the low value and quality of these materials, and logistical challenges that the often larger, bulky and mixed material items pose to the UK's traditional recycling systems. While the National Association of Waste Disposal Officers (NAWDO) produce an annual, internal report on HWRC data,

<sup>&</sup>lt;sup>16</sup> www.zerowastescotland.org.uk/single-use-plastics/regulations

<sup>&</sup>lt;sup>17</sup> www.gov.uk/government/news/far-reaching-ban-on-single-use-plastics-in-england

<sup>&</sup>lt;sup>18</sup> www.gov.wales/environmental-protection-single-use-plastic-products-wales-bill

<sup>&</sup>lt;sup>19</sup> www.letsrecycle.com/prices/efw-landfill-rdf/efw-landfill-rdf-2022-gate-fees/

<sup>&</sup>lt;sup>20</sup> https://plasticseurope.org/knowledge-hub/plastics-the-facts-2022/

<sup>&</sup>lt;sup>21</sup> RECOUP UK Plastic Packaging Sorting & Reprocessing Infrastructure Report 2022

<sup>&</sup>lt;sup>22</sup> https://wrap.org.uk/resources/guide/roadmap-2025-uk-plastics-pact

this does not include specifics around quantities and plastic waste, which would be needed to accurately analyse this stream of material.

RECOUP has undertaken research into the amounts of plastic in this waste stream, and the practices and movement of this material. This has enabled recommendations of interventions that would help enable plastic disposed of at HWRCs to fit into circular economy models, and further steps to build on this research.





### Research Methodology

Data generated for this report has been collated from information provided by local authorities and county councils for 2021. Household numbers data is from the *2021 Census* <sup>23</sup> for England and Wales, and historic data for Scotland and Northern Ireland. This gives a figure of over **28 million** households and **1025 Household Waste Recycling Centres** (HWRCs) across the whole of the UK, **673** of which are situated in England (23.4 million households). This report investigated the populations and household numbers served by authorities alongside the available tonnages by site to determine the amount of plastic disposed of at HWRCs in the UK on a per-household basis.

For this report, local authorities in the UK have been used to collect consistent data. In instances where data was not available, an average has been calculated based on a combination of household numbers and data from comparative authorities to estimate the quantities of plastic disposed of at these HWRCs. This has also been applied to local authorities that do not collect plastic as a separate target material, as this has been assumed to go into their residual waste streams.

The impact of the Covid-19 pandemic on the operations of HWRCs in the UK was a key consideration for this report. In early 2020, widespread changes were made to help manage the challenges sites faced. The report asked if these changes remain in effect, if things have returned to a pre-pandemic status, or if sites have adapted in other ways.

Data in the previous version of this report was collated in 2020, focusing on England only, and was measured at the beginning of the Covid-19 pandemic, and before the updated population figures for England and Wales were released from the *2021 Census*. Due to the significant impact the pandemic had on HWRCs, their operations, and the volume of material they received, the data in this updated report is considered more reflective of typical volumes received through these facilities.

### Challenges and Limitations of Reporting Data

Materials and processes from HWRCs pose various challenges in terms of measuring data. Unlike kerbside material, the plastic fraction in waste streams at HWRCs are comparatively low in terms of weight due to the other types of material and formats accepted at such sites. These include white goods, soil and aggregate, metal items and Waste Electrical and Electronic Equipment (WEEE).

Plastic is therefore a proportionately small fraction collected by HWRCs in the UK and is only expected to decrease with the evolution of kerbside recycling which aims to collect more types of plastic in the future with further standardisations of the process. Recent legislative discussions, such

<sup>&</sup>lt;sup>23</sup> https://census.gov.uk/census-2021-results

as around Extended Producer Responsibility (EPR) which helps move towards consistency in collections, and Deposit Return Schemes (DRS) where PET bottles will be collected in a separate stream, will further accelerate this <sup>24</sup> <sup>25</sup>.

The complexity of material collected at HWRCs means that there is a margin for error with sites collecting Dry Mixed Recyclables (DMR). The composition of this will include PET bottles, plastic pots, tubs and trays (PTT) and other plastics commonly deposited in kerbside schemes, but is likely to also include glass and metals, which will have a significant impact on the weight of the overall material. Most HWRCs also collect oversized plastic packaging items, such as multi-litre bottles, that should not be placed in kerbside recycling bins.

Of the respondents to RECOUP's 2022 UK Plastic Packaging Collection Survey <sup>26</sup>, over **65%** could not specify data relating to the individual types of plastics accepted in DMR at their local HWRCs, whilst **4%** stated they did not accept plastics typically collected in DMR at their HWRCs at all. Of those that did, **48%** reported collecting plastic bottles separately, **37%** collect plastic pots, tubs and trays (PTT), and **32%** collect drinks cartons.



# *Of those that responded to the RECOUP survey...*

<sup>&</sup>lt;sup>24</sup> www.gov.uk/government/consultations/packaging-and-packaging-waste-introducing-extended-producerresponsibility

<sup>&</sup>lt;sup>25</sup> www.gov.uk/government/news/deposit-return-scheme-for-drinks-containers-moves-a-step-closer

<sup>&</sup>lt;sup>26</sup> RECOUP UK Household Plastic Packaging Collection Survey 2022



### **Research Findings**

The research in this report has produced the following findings, which have been categorised into six areas:

- Collection quantities, service provision and values.
- End markets.
- Operations and management.
- Consistency.
- Impacts of the Covid-19 pandemic.
- Results from the RECOUP UK Household Plastic Packaging Collection Survey 2022.

#### **Collection Quantities, Service Provision & Values**

In total, across the United Kingdom (UK), there are in the region of **1,025 Household Waste Recycling Centres (HWRCs)**, with some additional bespoke and mobile services operating in some, often more rural and sparsely populated areas.

Official data for England, for 2021 to 2022, showed that overall rates of recycling at HWRCs for all materials has increased year-on-year, to **42.5%**. However, this was down on pre-Covid levels of close to 44% for 2019. Reject rates have increased annually for a number of years, with it currently **just over 5%**. It is important to consider that this is for all materials, and that as the measurement is in tonnage, plastics will have a smaller proportionate impact on these figures than other materials commonly disposed of at HWRCs, such as glass, metals, and rubble <sup>27</sup>.

After researching local authorities, waste management providers, their staff and partners, RECOUP estimates that there are over **120,000 tonnes** of plastic disposed of at HWRCs in the UK. This amounts to an average of between **2-3kg** of plastic waste per household. By comparison, the official figures for England alone showed the total material disposed of at HWRCs in England alone being 13.6mt, or almost 0.6 tonnes per household <sup>28</sup>.



 <sup>&</sup>lt;sup>27</sup> www.gov.uk/government/collections/waste-and-recycling-statistics#full-publication-update-history
<sup>28</sup> www.gov.uk/government/collections/waste-and-recycling-statistics#full-publication-update-history

If the 120,000 tonnes of plastic was fully recovered and recycled, the plastic collected at HWRCs in the UK would account for around **3%** of the overall plastics on the market in the UK <sup>29</sup>, so it is a significant stream that could potentially contribute to developing circular economic models.

Placing a value on this material is somewhat arbitrary due to the significant variation in plastic types and potential for contamination. However, it is possible to show the significant cost associated with the disposal of this material through gate fees or landfill tax. Using 2022 averages to calculate the values, it can be estimated that the disposal of the estimated **120,000 tonnes** of plastic through means of landfill, Refuse Derived Fuel (RDF) and EfW (Energy from Waste) would cost in the region of **£13 million** in fees and taxes <sup>30</sup>. Packaging Recovery Note (PRN) values may also be a value to factor in, but would only apply to any packaging element of this material. This is because there is limited available data on what proportion of HWRC waste is packaging. Although unrealistic, if the total **120,000 tonnes** of plastics collected at HWRCs were packaging, it would have had a PRN value of over **£27 million** in 2022. Whilst the majority of the material can be expected to be nonpackaging, this does provide an idea of the volume and potential value of the material available, before accounting for any value in the plastic itself as a material.

Due to their nature, no HWRCs should have trade or commercial waste in their recycling streams, although it is difficult to identify the source of the material when it has been disposed of at a HWRC.

#### **End Markets**

The UK's lack of infrastructure and capacity to handle rigid and bulky plastics disposed of at HWRCs, means that most of this material is either exported or sent for incineration, landfill or energy recovery, with a small volume reused. The challenge with data around this comes from local authorities only being aware of what happens to their material one-step removed from the HWRC, and not its end destination. Co-operative work with waste management providers that operate HWRCs, transparency throughout the system and more research in this area would help to create a more complete picture of this material stream.

When looking at the post-disposal journey of materials accepted at HWRCs in the UK, just under **16%** of the 50 local authorities who responded to this question were able to provide information on the next destination of hard and rigid plastics following collection. One authority answered landfill, and one answered incineration, with the remaining respondents detailing stages in the disposal journey of collected hard and rigid plastics.

<sup>&</sup>lt;sup>29</sup> https://commonslibrary.parliament.uk/research-briefings/cbp-8515/

<sup>&</sup>lt;sup>30</sup> Let's Recycle - prices based on 2018 average EfW (£94 per tonne), Landfill including tax (£108 per tonne), RDF (£91 per tonne).

Understanding where plastics are exported is a challenge faced by questioned authorities, with around **40%** not sure how much of the plastic collected at their HWRCs is exported. Of those that could provide information, the most popular export destination was still within European Union (EU) Member States, with **32%** of respondents that provided information declaring upwards of **90%** of their plastic material was sent there.

Of those that responded to the RECOUP survey...



Of their residual waste streams, **75%** of respondents stated it was disposed of at EfW facilities. Comparatively, **16%** listed landfill as the following destination for this waste with the remaining **9%** being attributed to a combination of both EfW and landfill, or Mechanical Biological Treatment (MBT).

#### **Operations and Management**

Across the UK, there is variation in terms of which types of plastics are accepted at HWRCs, which are separated for recycling and how they are treated in respect of other material streams. Over **51%** of respondents reported collecting hard and rigid plastics separately in at least some of their HWRCs. Overall, just over **31%** separately collected plastic bottles, **24%** plastic pots, tubs and trays (PTT), and just over **1%** plastic films and flexibles.

The management of these facilities also varies, with some owned and managed by the local authority, some by third-party contractors, and others a combination of the two. **60%** of respondents managed HWRCs in-house and the remaining **40%** were managed externally.

At HWRCs, metal and glass fractions are often prioritised due to both their higher value as a recyclate, and greater weight when seeking to achieve recycling targets. Comparatively, bulky plastics tend to have a lower value than other materials and have more limited end markets. Furthermore, bulky plastics can not be easily compacted in the same way as other materials due to the various polymers and materials that may be combined, making sorting post-transit more difficult. This means that while plastic is a light material to transport, its volume potentially involves a lot of shipping of empty space, which is costly.

Sorting and separation of material is largely done by the consumer at the point of disposal, and HWRCs often do not permit their staff to dismantle or separate items. Even when items such as hard plastics are recycled, there can be different variations as to what is considered hard plastics. For example, one location may accept children's toys, while another may not. In instances where HWRCs do not dismantle or separate materials on site, further processing is more of a challenge, and will likely result in more material being sent along with residual waste streams.

# Of those that responded to the RECOUP survey...



While often defined as bulky or large items, with contextually little being plastic packaging, the materials and formats of plastics accepted by HWRCs varies significantly from item to item due to their use and potential levels of contamination. Common items range from wheel bins and water buckets to exterior car trim and children's toys. As consumers are expected to separate these materials at the point of disposal, this material stream will likely be free of other material types that are not targeted, but the nature and purpose of these items, as well their composition means that contamination remains a key challenge.

On-site promotion of 're-use' solutions is sometimes seen as a solution for some items received at HWRCs with over **35%** of local authority respondents stating that they collect plastic items to be reused. Items disposed of in a condition which can be repaired or upcycled are often held by the site to be sold or donated through community organisations that can recycle the item without any need for processing or disposal. Some HWRCs have begun trials of on-site re-use stores <sup>31</sup>, where consumers can purchase items directly at the site. This can extend beyond plastic items, such as large pieces of furniture, paint cans and bikes <sup>32</sup>. As the focus on re-use continues to gain momentum, and with discussions in the EU's Plastic Packaging Waste Regulations (PPWR) around introducing ambitious re-use targets for Europe <sup>33</sup>, there is a potential to see these items for its resale value, rather than its material reprocessing value.

<sup>&</sup>lt;sup>31</sup> www.suez.co.uk/-/media/suez-uk/files/publication/suez-hwrc-aguidetore-use-2211.pdf

<sup>&</sup>lt;sup>32</sup> www.norfolk.gov.uk/rubbish-recycling-and-planning/rubbish-and-recycling/find-your-local-recycling-centre/thetford-main-recycling-centre-plus

<sup>&</sup>lt;sup>33</sup> https://environment.ec.europa.eu/publications/proposal-packaging-and-packaging-waste\_en

#### Consistency

Across the UK, all HWRC sites accept plastic in some capacity, though not all separately for recycling. There are differences across sites in respect of what formats are accepted, language used to describe different plastic types and formats, and how they are targeted and processed. There are significant inconsistencies across the country in the plastic formats accepted at these sites, with some only taking in Dry Mixed Recycling (DMR) or other types of household plastic packaging, some taking all plastic types for recycling and some accepting all but only as residual waste. Consistencies are often kept within council boundaries due to management largely being at a county level, so long as capacity and space at the site in question allows.

Information presented on council websites around HWRCs is often consistent, stating the location and accepted items, and is also searchable centrally for the whole of the UK <sup>34</sup>. It is often not the case that each council reports the same materials, or clearly states plastic types beyond 'bulky' plastic, bottles and other 'packaging' plastics, or simply 'plastics'.

Overall, it appears that while HWRCs can be inconsistent when looking at the UK as a whole, councils generally manage to maintain consistency within their local authority areas around materials accepted and their communications. However, there is no guarantee that one site within a county will accept the same as another, often due to space, processing and logistical limitations.

# Results from the RECOUP UK Household Plastic Packaging Collection Survey 2022

In 2022, RECOUP surveyed local authorities, county councils and waste partnerships for information on the disposal of household plastic waste in the UK. Of the respondents, **57%** reported managing kerbside collections in-house but only **45%** managed catchment HWRCs.

Survey respondents were also asked questions about the types of plastics accepted at HWRCs in their catchment. A majority of **52%** of those who responded collect rigid and hard plastics separately at their HWRCs. Of these, **71%** stated this was at all the sites in the catchment, and **29%** answered only at some. **45%** of HWRCs do not collect rigid plastics separately, and **36%** recover at least some hard plastic items for re-use. Whilst these figures related to the collection of material, the amount of hard plastics reaching recycling or end-of-life streams is unclear.

Aside from rigid plastics, the most common separately collected plastic packaging format at HWRCs is plastic bottles, followed by PTT. Around **5%** of HWRCs reported not collecting plastic packaging at all. While this is a small figure in respect of the volumes of total waste collected at HWRCs, the differences in functional capacity may cause issues for waste disposal authorities, of which **50%** state they rely on HWRCs as additional facilities for collecting plastics within the same catchment areas. This is not the only issue authorities reported facing concerning HWRCs, with the impact of the Covd-19 pandemic resulting in long-term closures, visitor restrictions being put in place, and

<sup>&</sup>lt;sup>34</sup> www.gov.uk/recycling-collections

significant changes to the volumes received, some of which have yet to return to pre-pandemic levels.

Impacts on the availability of HWRCs may also include changes in the level of litter or fly-tipping in an area, although there are multiple factors and variables that can contribute to this. Of respondents, **30%** claimed their catchment area has been heavily affected by litter and/or flytipping, and a further **30%** having experienced a widespread distribution of litter around these areas. Compared to general littering, however, fly-tipping continues to be seen as the greater problem by authorities. **63%** of local authorities reported experiencing greater issues in managing fly-tipping compared to litter. Out of these, **10%** have seen an increase in fly-tipping cases, and a further **19%** claim there has been an increase in both litter and fly-tipping. This compares to just **2%** of authorities who reported an increase in litter alone. However, there is no evident direct link between the factors impacting HWRCs and these findings.





### Summary, Interventions and Next Steps

While a significant amount of plastic is disposed of into waste streams through Household Waste Recycling Centres (HWRCs), it is also apparent that there are significant challenges to extracting recyclable material from them.

Unlike kerbside collections, customer confusion does not appear as common with this waste stream. Instead, issues are more around material composition and contamination from the items themselves, as opposed to incorrect methods of disposal. Along with the general consistency of sites, at least inter-county, there are also challenges around the available infrastructure in the UK to handle and reprocess these types of materials.

In-depth data analysis is required to ensure that collection quantities are accurately reported and that they relate to how the material is targeted, collected and processed. In addition to this, end market destinations need to be explored in more detail, particularly concerning exported materials, to find out if these items are ultimately recycled or end up in other non-circular streams. Assessing the composition of materials collected at HWRCs would help to provide an accurate understanding of the plausibility of finding end markets for the plastic waste within them.

There appears to be limited publically available data on material from HWRCs, their operators, and their target materials. A mapping exercise may be useful to identify where material collected at HWRCs ultimately ends up and, combined with information already held by RECOUP, the possibility of streamlined or alternative routes that may achieve a more positive and environmentally beneficial outcome.



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

- A robust data-led system is needed to help rectify the current absence of collated, accurate and thorough data to enable:
  - A greater understanding of both the composition and volume of plastic material that is disposed of at HWRCs annually.
  - A better understanding of the variation between the four devolved nations and the impact of this.
  - A greater understanding of the end destinations for plastics currently collected at HWRCs to identify what proportion is sent for recycling, reprocessing and reuse in the UK, how much is sent for landfill, incineration, and other non-circular outcomes, and how much is exported. At present, the destination for these materials known to local authorities is likely one step removed, particularly concerning sorting and export, with the final outcome for these materials often unknown.
- Greater investment in UK reprocessing infrastructure capacity for rigid and hard plastics typically disposed of at HWRC sites to create new raw materials that can provide feedstock into a range of end markets. This is to rectify the known shortfall in UK reprocessing capacity, especially in regards to 'hard-to-recycle' plastics as identified in the 2022 UK Plastic Packaging Sorting & Reprocessing Infrastructure report <sup>35</sup>.
- Further development of re-use centres, where items disposed of are recovered, repaired and sold on. This helps to reduce the overall amount of material placed into waste streams, especially that which is 'hard-to-recycle' <sup>36</sup>.

RECOUP has identified two further steps to build on this research:

- While this report has gathered data and evidence around the types and quantities of materials and how they are managed at HWRCs across the UK, this could be built upon further. The variables associated with each devolved nations, and the way they manage their materials at HWRCs, provide different solutions for each.
- Investigation into how other countries, particularly those in Europe, manage rigid and hard plastic through kerbside and non-kerbside schemes.

<sup>&</sup>lt;sup>35</sup> RECOUP UK Plastic Packaging Sorting & Reprocessing Infrastructure Report 2022

<sup>&</sup>lt;sup>36</sup> https://wrap.org.uk/resources/guide/re-use/benefits-re-use



### Acronyms and Abbreviations

- DMR Dry Mixed Recycling
- DRS Deposit Return Scheme
- EfW Energy from Waste
- EPR Extended Producer Responsibility
- EU European Union
- HMRC HM Revenue & Customs
- HWRC Household Waste Recycling Centre
- KG Kilogram
- KT Kilotonne
- NAWDO National Association of Waste Disposal Officers
- MBT Mechanical Biological Treatment
- MRF Material Recycling Facility
- PERN Packaging Export Recovery Note
- PET Polyethylene Terephthalate
- POM Placed on the Market
- PPWR Plastic Packaging Waste Regulation
- PRN Packaging Recovery Note
- PTT Pots, Tubs and Trays
- RDF Refuse Derived Fuel
- UK United Kingdom (England, Scotland, Wales and Northern Ireland)
- WDF WasteDataFlow
- WEEE Waste Electrical and Electronic Equipment

# Plastics Management and Recycling at Household Waste Recycling Centres in The UK 2023

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