



A ROADMAP TO CLOSED LOOP GLASS RECYCLING

This roadmap sets out how to navigate towards a glass recycling capture rate target of 90% by 2030, with a focus on remelt. It uses the latest available glass data for the UK including placed on-market, waste data, and PRN returns. UK household collection profiles by local authority glass performance reveal the highest and lowest performers for kerbside glass collections, plus the latest understanding of incoming legislation.

wrap



British Glass

About WRAP

WRAP is a climate action NGO working around the globe to tackle the causes of the climate crisis and give the planet a sustainable future.

Our core purpose is to help you tackle climate change and protect our planet by changing the way things are produced, consumed, and disposed of.

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Executive Summary

This roadmap sets out how to navigate towards a glass recycling capture rate target of 90% by 2030, with a focus on remelt. It uses the latest available glass data for the UK, including updated placed on-market figures for 2022 (by sector, format, and colours) and waste metrics including a composition by stream, exports, and latest PRN returns. It details UK household collection profiles by local authority glass performance – revealing the highest and lowest performers, and those who do not currently collect at kerbside. This is entwined with the latest understanding of incoming legislation, its scope, and implementation dates.

Working with Valpak, the latest UK figures for glass placed on the market are relatively steady,

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. Concerning colour, the largest share of glass placed on the market is clear, followed by green then amber.

Almost 1.9 million tonnes of glass recycling have been recorded in the National Packaging Waste Database in 2022,

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report.

. Moreover, almost 20% of glass for recycling is exported overseas, with the amount having risen between 2021 and 2022 by over 30%. Nonetheless, the recycling rate in the UK for glass is high at over 75%. To improve total glass recycling rates as a proportion of placed on the market, it is imperative to capture more glass. To investigate this, local authority service profiles were investigated based on the performance of glass collections at kerbside. This was gathered based on the amount of glass collected per household per year. It showed that for those collecting the most glass, there is a tendency towards offering more two-stream recycling services (either fibres or glass separated) and reduced residual services (both in terms of frequency and bin capacity).

A nationally led example of such a model is The Welsh Collections Blueprint. It prescribes a preferred service configuration for waste collections from households by using an efficient kerbside separated sort system, making use of modern compartmentalised vehicles towards achieving high-quality recycling and the promotion of common advice and instruction to households, as well as reduced residual collection frequency and capacity. The blueprint was first published in 2011, with Wales now achieving some of the highest recycling rates in the world.

The latest figures (2023) show that of glass disposed at home in Wales, 92% is placed in the recycling box and only 8% in the residual bin. For Welsh authorities still operating a co-mingled service, the average rate of non-target material capture was over 3x that of those operating separated services. This indicates high levels of correct engagement with recycling and large improvements in the capture quality possible when services are separated.

Over half of the Welsh authorities are classified in the same rurality grouping (a designation based on rural/urban predominance and deprivation level), yet they make up 6 of the top 10 performers for glass packaging waste kerbside collections. The obvious demarcation between receptacles for different materials provides a clearer indication of correct recycling behaviours and enables improved communications to the householder when non-target materials are placed in the incorrect receptacle. The separate collection of glass is key to improving final cullet quality for avoiding contamination and closed-loop recycling, as a result, recovered glass collected separately receives a higher price than glass collected co-mingled and MRF processed.

Despite the inherent recyclability of glass and the Circular Economy benefits from doing so, most local authorities have not undertaken any targeted campaigns on glass recycling, with the quality of communications overall being variable. Engagement with businesses also showed that most believe glass recycling behaviours are already embedded in the UK, with further change being slight compared to improvements in collection and sorting processes themselves. Nevertheless, the citizen disposal decision is the deciding point – what isn't captured cannot benefit from any such improvements. The ability and ease of providing feedback to householders is better facilitated when non-target material capture can be identified easily – a single co-mingled recycling collection is less conducive to feedback than a system that includes some degree of separation. Moreover, the co-mingling of materials comes to the detriment of cullet quality, particularly from Material Recovery Facilities.

The plethora of incoming legislation, as below, will change the landscape of packaging and kerbside collections across the UK as it is intended to drive resource efficiency and the move towards a circular economy. It will see the introduction of Extended Producer Responsibility across the UK, Deposit Return Schemes (DRS), a harmonised set of materials for collection in England, and new digital waste tracking measures. However, citizen knowledge of these changes is lacking, with over 50% of people in every UK nation believing glass to be in the scope of their respective DRS scheme, regardless of whether it is or not.

Using this information, opportunities and interventions were identified to maximise the potential for capturing high-quality glass for recycling, towards the target rate of 90% by 2030. The key enablers for this include:

- Moves away from material co-mingling and towards, at minimum, two-stream recycling collection approaches – to facilitate kerbside sort approaches to improve quality, and ease feedback on disposal behaviour for local authorities.
- Reductions in the frequency and capacity of residual waste collections – towards incentivising recycling and social norms.
- Communications campaigns that target glass items with high rates of missed capture – to increase capture rates.
- Targeted campaigns at local authorities in England that currently offer no kerbside glass collections – to improve citizen knowledge from the outset once Simpler Recycling is in effect. This would extend to local authorities in other nations that do not offer such collection schemes.

- Campaigns that clearly outline the scope of DRS across nations – to improve citizen knowledge and correct disposal behaviours.
- Increased business engagement on design for recyclability guidance – to ensure that glass is fit for high-quality recycling and adequately labelled.

Separate collections are a key enabler to improving final cullet quality for closed-loop recycling and avoiding contamination, but to achieve maximal effectiveness must be combined with consistent, common, and simple messaging to improve citizen knowledge. The information gathered shows that the collection system is a primary driver of recyclate quality and quantity – achieving higher rates of circularity depends on the effectiveness of collection. The higher quality of collected glass will help enable more glass to be recycled in a closed loop, going back into manufacturing new glass packaging.

YEAR	ANTICIPATED POLICY TIMELINE
2023	Common Collections: Northern Ireland Consultation due. January – EPR: data reporting begins. October – Simpler Recycling (England): Government response published.
2024	Digital Waste Tracking: UK-wide (voluntary). January – EPR: expected announcement of packaging subject to modulation. April – Waste Separation (Wales): separated waste collections begin for non-domestic premises in Wales. December – EPR: nation data for packaging requirement.
2025	January – EPR: data reporting requirements for materials subject to modulation begin. March – Simpler Recycling (England): businesses and relevant non-domestic premises. April – Digital Waste Tracking: UK-wide enforcement. October – EPR: first packaging fees payments. DRS: Scotland, Wales (including glass), England, and Northern Ireland.
2026	2026 / 2027 – PRN: earliest possible end date. March – EPR: labelling obligations begin. Simpler Recycling (England): households. ~July – EPR: first invoices to be sent that included modulated payments.
2027 – 2030	Continuation of EPR reporting and payments – including possible wider environmental sustainability criteria for modulation.

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1.0

Introduction

Glass is a material well suited to recycling. It can be remelted indefinitely with no quality loss, plus, the use of cullet (processed waste glass ready for recycling) helps to lower emissions, save energy, lower costs, reduce resource use, and ultimately promote the transition to a Circular Economy by moving up the waste hierarchy.

To realise this, the glass must be correctly captured in the first place to enable these opportunities. Most glass packaging is consumed in the home rather than in businesses, so the majority needs to be collected for recycling from UK households.

In the coming years, new legislation is due to be phased in for the UK on Extended Producer Responsibility (EPR), Deposit Return Schemes (DRS), standardised material collections at kerbsides (e.g., Simpler Recycling or Common Collections), and digital waste tracking. There are also EU-wide directives and regulatory reviews (Packaging and Packaging Waste) and global treaties towards bringing an End to Plastic Pollution. These will impact all global packaging operations and be further determinative for the Circular Economy transition.

Target of collecting 90% of glass packaging for recycling in the UK by 2030, with an 80% target for glass remelt.

This document has been created to help navigate this transition, looking towards the **target of collecting 90% of glass packaging for recycling in the UK by 2030, with an 80% target for glass remelts**. It provides an overview of the current situation and trends in glass tonnage placed on the market and their collection and recycling, including infrastructure, as well as matters relating to good design practices, and provides recommendations for target areas to increase the circularity of glass in the UK.

It will form part of broader work being undertaken, with British Glass having published a [Glass Sector Net Zero Strategy 2050](#) that details the glass industry route for reaching net zero, in line with the [UK Government's legal binding on signing The Paris Agreement](#) and their commitment to bring all greenhouse gas emissions to net zero by 2050.



2.0

Why we must act

Across the whole life cycle, the CO₂ equivalent savings from recycling 1 tonne of glass back into bottles and jars are as great as 580kg. Compared to the current situation, if 90% of glass placed on market in 2022 were captured and all of it remelted, an additional 200,000 tonnes of CO₂ equivalent emissions could be saved. It would minimise the need to extract virgin resources.

In 2022, Zero Waste Europe (ZWE) released a [report on the circularity of glass](#) comparing 2019 performance figures for European nations – summarised in Table 1. While this data does not show the current situation, with circularity having improved in the UK since then¹, there is still scope for improvement.

Based on 2019 data, collection rates need to improve by 19% to hit the 90% target in 2030, with plenty more ground to make up for closed loop recycling. The ZWE report highlighted that the higher rates of co-mingled collections in the UK are the main reason for the UK's lower rates of closed-loop recycling. Nonetheless, based on the latest data the 2022 UK glass recycling rate is now at 75.9%.

Table 1: Zero Waste Europe 2019 figures on the circularity of glass in European nations.

	UK	France	Germany
Collection Rate	71%	70%	81%
Overall Recycling Rate	71%	67%	79%
Closed Loop Recycling Rate	43%	61%	77%
Recycled Content	38%	42%	65%

The ground that still needs to be covered is a representation of broad failures in capturing a valuable resource with inherent and indefinite high-quality recyclability. For example, [WRAP's most recent recycling tracker](#) found that the most often missed item(s) for recycling (i.e. missed capture) are glass perfume and aftershave bottles, with 53% of UK citizens incorrectly disposing in residual waste²; moreover, [WRAP consumer research on recycling](#) also showed that the 2 of the top 3 most common items mistakenly included in the recycling are glass (wine glasses and glass cookware e.g., Pyrex)³. Citizen lack of knowledge on what should and should not be placed in recycling bins exacerbates the issue of virgin resources being consumed, making the environmental impact greater.

¹ Packflow Refresh 2023 (unpublished)

² [WRAP - Recycling Tracker survey: Spring 2023, 18 October 2023](#)

³ [WRAP - Recycling Guidelines, 01 October 2021](#)

Across the whole life cycle, the CO₂ equivalent savings from recycling 1 tonne of glass back into bottles and jars are as great as 580kg⁴. Compared to the current situation, if 90% of glass placed on market in 2022 were captured and all of it remelted, an additional 200,000 tonnes of CO₂ equivalent emissions could be saved, and it would minimise the need to extract virgin resources.

Local authorities in the UK are responsible for waste collection and disposal services, however, the form of service provision can vary greatly. Some do not collect glass for recycling at kerbside, others do but co-mingled with other materials while others collect in separate streams. Some local authorities use kerbside boxes for households, some use communal bins, and others use non-reusable sacks. These approaches can differ based on rurality and deprivation, housing stock and density, collection costs, and local policies influenced by devolved administration governance. This results in a quality disparity after collections, particularly at a Material Recovery Facility level with co-mingled collections and the throughput quantities involved.

We must therefore put our collective efforts behind actions that have been proven to increase the circularity of materials. Disparate collection schemes can lead to confusion during disposal that can decrease the quality of the cullet, reducing circularity (i.e., towards open loop recycling or landfill) and increasing emissions and resource use. Key actions for transformation can include increasing the availability of glass collections, improving scheme design and harmonising collection systems; clear, coordinated, and consistent information campaigns; improving knowledge on how to design for recyclability; and the sharing of learnings and best practices across similar authorities.

This roadmap is a collaborative call to action towards improving capture rates for quality recycling.

⁴ A: [WRAP - Carbon Waste and Resources Metric, 01 February 2021](#)

B: [Government conversion factors for company reporting of greenhouse gas emissions, 07 June 2023](#)

C: [British Glass: Recycle it right](#)



3.0

Current situation

Overall, the UK glass packaging recycling rate for 2022 is estimated at 75.9%.

Based on data from the National Packaging Waste Database for 2022, 82% of recorded UK glass packaging recycling took place in the UK with the remaining 18% taken overseas. However, PRN revenues for domestic glass remelt rose by over 7.5x from 2018 to 2022 and over 6x for exported glass remelt – disincentivising domestic reprocessing.

Tonnages Placed On Market

WRAP is updating its series of 'Packflow' reports as part of the Packflow 2023 refresh, whilst the full reports are not complete as of the publication of this document, interim results are available. The Packflow series of reports provides the latest estimates for total amount of packaging Placed On the Market (POM) and recycled in the UK for six materials: paper and card, glass, aluminium, steel, plastic, and wood. The 2022 glass packaging POM and recycling rate estimates from the 'Packflow 2023 refresh' are the most up to date estimates currently available. All glass packaging POM and recycling rate estimates included within this report are drawn from the latest 'Packflow 2023 refresh'. The 'Packflow 2023 refresh' uses the same [methodology](#) as the previously published '[Packflow Covid-19 reports](#)'. From the 'Packflow 2023 refresh' the total UK glass packaging consumption is estimated as:

$$\text{Total UK Glass Packaging Consumption} = \text{Total Production} - \text{Exports (Empty)} - \text{Exports (Filled)} + \text{Imports (Empty)} + \text{Imports (Filled)}$$

The 2022 glass packaging POM total is estimated by identifying UK production of glass packaging, subtracting exports of glass packaging, and adding imports. For estimations of glass packaging POM by sector, a mixed methodology is employed using data from bottom-up sources (e.g., [Valpak's Environmental Product Information Centre \(EPIC\)](#) database at a product level) and top-level figures (e.g., [National Packaging Waste Database \(NPWD\)](#) accredited recycling) to create an overall estimate for POM by sector. The total POM figure is cross-checked with reported obligated data from the [National Packaging Waste Database \(NPWD\)](#) for validation. Total consumer⁵ and non-consumer⁶ UK glass packaging POM estimates for 2022 are outlined in Table 2.

⁵ Consumer glass packaging – glass packaging consumed within the household.

⁶ Non-consumer glass packaging – glass packaging consumed in the commercial/industrial sector (away from home or on the go in hotels, bars, restaurants and businesses).

Table 2: 2022 UK glass packaging Placed On the Market (kilotonnes).

Sector	Mass (kt)	Error margin (%)
Consumer	Redacted while awaiting publication of Packflow Refresh report.	
<i>Grocery</i>		
<i>Non-grocery</i>		
<i>Unregistered</i>		
Non- consumer		
Total		

Source: Packflow 2023 Refresh (unpublished)

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As shown in Table 3 the total amount of glass packaging POM on the market in the UK in 2022 has decreased since 2019 but does represent an increase over 2017 figures.

Table 3: 2022 UK glass packaging POM 2017, 2019, and 2022 (kt).

Sector	2017 (kt)	2019 (kt)	2022 (kt)	2019 vs 2022 Change (%)
Consumer	Redacted while awaiting publication of Packflow Refresh report.			
Non-consumer				
<i>Total</i>				

Source: Packflow 2023 Refresh (unpublished)

Redacted while awaiting publication of Packflow Refresh report.

Data from the 'Packflow 2023 refresh' (and previous Packflow reports) allows for the total POM to be broken down by packaging format including bottles, jars, and 'other'. Table 4 illustrates the POM by packaging format and the change from 2019 to 2022.

Table 4: Glass POM figures by format in 2017, 2019, and 2022 (kt).

Format	2017 (kt)	2019 (kt)	2022 (kt)	2019 vs 2022 Change (%)
Bottles				
<i>Consumer</i>				
<i>Non-consumer</i>				
Jars				
<i>Consumer</i>				
<i>Non-consumer</i>				
Other				
<i>Consumer</i>				
<i>Non-consumer</i>				

Source: Packflow 2023 Refresh (unpublished)



Data from the 'Packflow 2023 refresh' (and previous Packflow reports) also allows for the total POM to be broken down by colour. Table 5 illustrates the POM by colour and the change from 2019 to 2022.

Table 5: Glass POM by colour in 2017, 2019, and 2022 (kilotonnes). Source: Packflow 2023 Refresh (unpublished).

Format	2017 (kt)	2019 (kt)	2022 (kt)	2019 vs 2022 Change (%)
Clear				
Consumer				
Non-consumer				
Amber				
Consumer				
Non-consumer				
Green ⁷				
Consumer				
Non-consumer				

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⁷ This includes other colours of glass, which are typically mixed or darker colours and would likely end up processed with green glass.

Current Recycling Rates and Local Authority Collections

Latest Figures

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As shown in Table 6, according to consumer recycling data extracted from [Waste Data Flow \(WDF\)](#), a total of 1,587k tonnes of consumer glass packaging was collected in 2022 in the UK.

Table 6: Consumer glass packaging collections in 2022 (kilotonnes).

	Kerbside	Bring site	HWRC	Total
Glass packaging collected	1,410	144	34	1,587

Source: [WDF](#)

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Non-consumer recycling can be estimated using the formula:

$$\text{Non-consumer Recycling} = \text{Total recycling} - \text{Consumer recycling}$$

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Regarding exports, based on NPWD data for 2022, 82% of recorded UK glass packaging recycling took place in the UK with the remaining 18% taken overseas (compared to 16% in 2019). Data from the Environment Agency shows that Portugal, Belgium, the Netherlands, Spain, Italy, and Norway are the main export destinations for glass packaging recycling exported from the UK as shown in Table 7.

Table 7: Glass export destinations 2022, by tonnage and proportion of total exports.

Country	Export (kt)	% of Exports
Portugal	162	48%
Belgium	100	30%
Netherlands	32	9%
Spain	20	6%
Italy	18	5%
Norway	3	1%

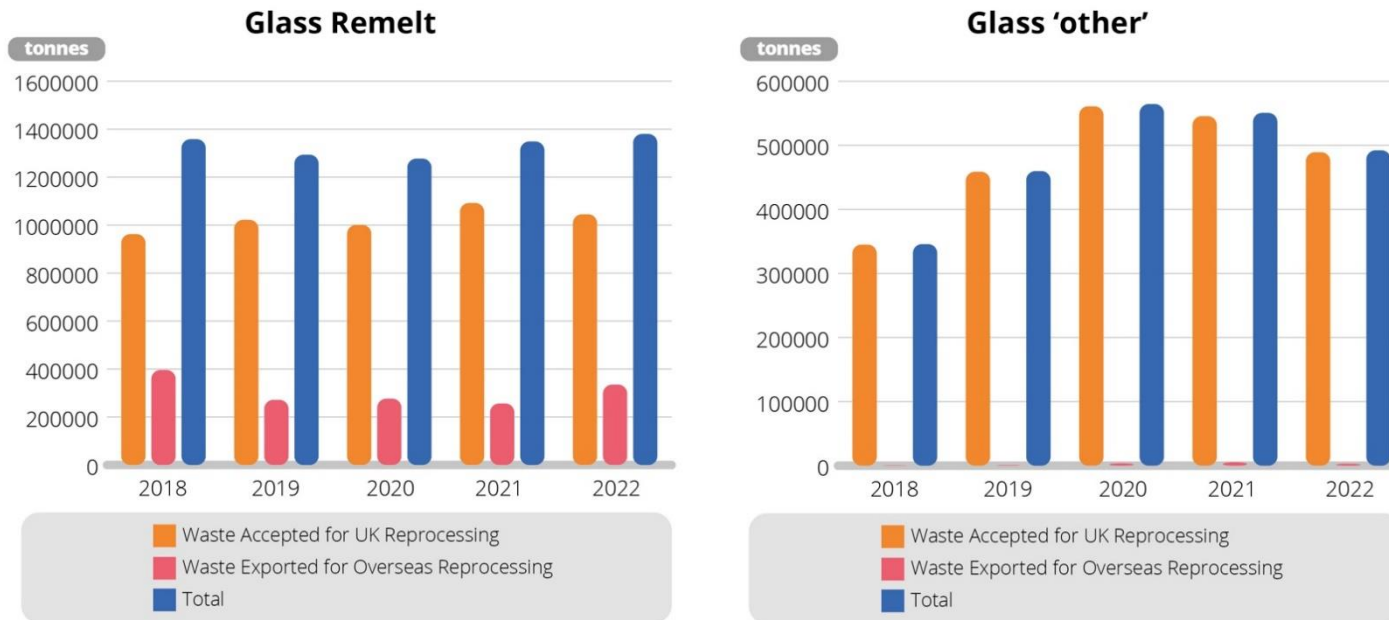
Source: Environment Agency

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⁸ The 43% “closed-loop recycling” rate quoted earlier from Zero Waste Europe is based on a model developed by Eunomia and considers glass container-to-glass container closed-loop remelt. The 69% figure here is based on data from Valpak’s earlier Packflow reports for all remelt (i.e., not container to container), so includes recycling into other applications such as glass wool or beads. A more precise breakdown from this data is not available.

NPWD data for glass waste accepted for UK reprocessing and waste exported for overseas processing, the trend over time can be examined⁹. Figure 1 illustrates the changes in the amount of glass reprocessed domestically and glass exported for reprocessing from 2018 to 2022. For both remelt and 'other' glass the largest change from 2021 to 2022 is in waste exported for overseas reprocessing. For remelt glass the amount exported for overseas reprocessing is much higher and the 31% increase from 2021 to 2022 represents a much more significant increase.

Figure 1: Re-melt and 'other glass' domestic and overseas reprocessing (tonnes), 2018 to 2022. Source: [NPWD](#).



⁹ Please note that the totals here will differ from Packflow estimates as non-accredited recycling is not included, though due to the low level of non-accredited recycling the overall impact is limited.

Some in the UK glass industry have linked the increase in the amount of glass remelt exported for overseas reprocessing with the increase in glass PRN prices, especially PERN prices – Figure 2 compares glass remelt domestic and export PRN revenues with domestic and overseas reprocessing. It clearly shows that very rapid increase in domestic remelt PRN revenues, which only accelerate in 2021. The graph also demonstrates that PRN revenue increase for overseas remelt and ‘other’ glass lagged behind domestic remelt by one year with both experiencing smaller but still significant increases in overseas remelt revenues in 2021. As such, the UK may not be fully utilising domestic capacity as export volumes have grown. However, glass packaging waste generation and domestic capacity are imbalanced based on colour, with more green and amber glass waste being generated than there is UK capacity.

Figure 2: Glass remelt domestic and overseas reprocessing tonnages (bars-left) versus PRN revenue (line-right), 2018 to 2022.

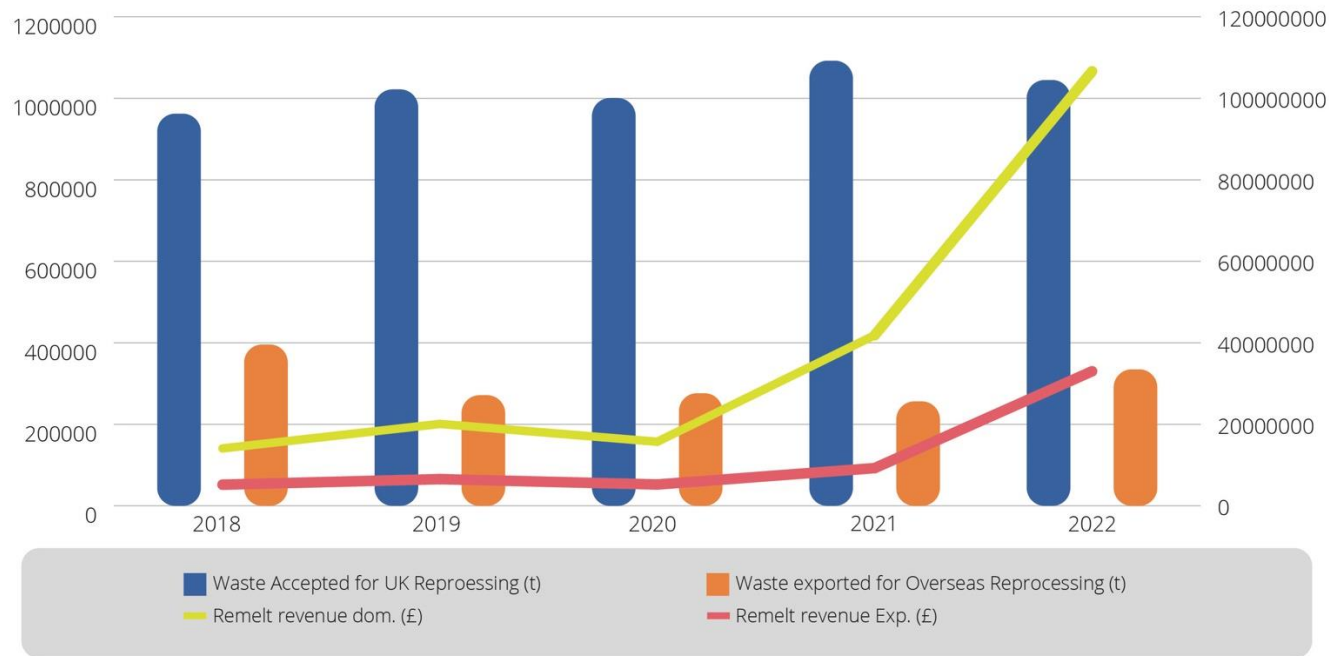
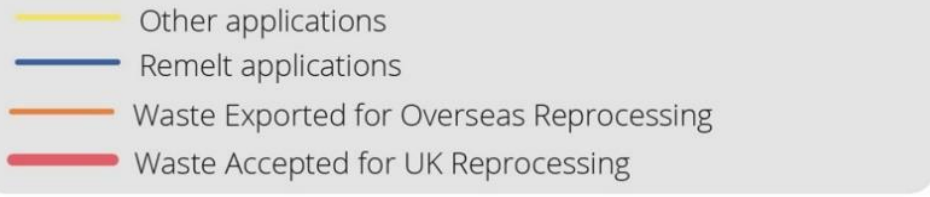
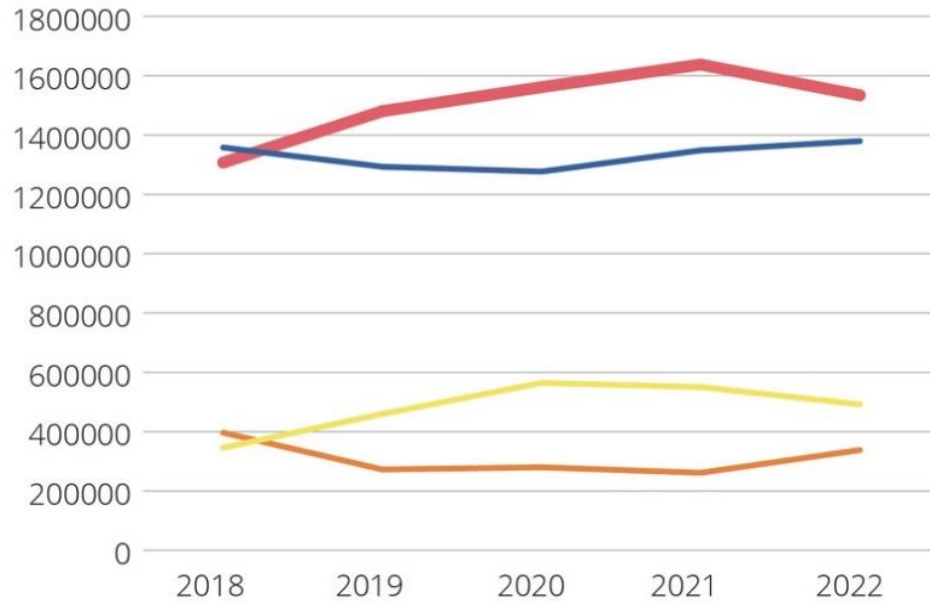


Figure 3: Waste reprocessed for remelt and 'other' applications, and location of reprocessing in 2022 (tonnes). Source: [NPWD](#).



The NPWD data corroborates what the Packflow data has shown, that there has been relatively little movement in glass reprocessing, the destinations for reprocessing, and the remelt/'other' split, over time. The data does show that there has been a gradual increase in the amount of glass being domestically reprocessed since 2018, accompanied by a similarly gradual increase in the number of PRNs/PERNs¹⁰ issued.

Figure 3 shows how the level of reprocessing for remelt and 'other' applications have changed from 2018 to 2022 along with changes in the location of the reprocessing. This still leaves a considerable remainder not recycled.

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Available data does not allow for a more precise estimate of the fate of glass sent to EfW – some may be separated for recycling, but the majority will likely be used as aggregate.

¹⁰ Packaging Recovery Note / Packaging Export Recovery Note

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The overall UK glass packaging recycling rate for 2022 is estimated at 75.9%.

Local Authorities

With the majority of glass packaging being consumed in the home it is important that local authorities (LAs) provide efficient collection systems from UK households. The UK is also required to achieve a 65% household recycling rate by 2030, which is something increased glass packaging recycling will contribute to. The form of kerbside collections in the UK is broadly defined into 3 types:

1. **Co-mingled** collections: dry recycling materials are collected in one bin.
2. **Twin-stream** collections: one material is collected separately to the other dry recycling materials, for example twin-stream for glass involves glass presented in one container and all other dry recycling materials in another.
3. **Multi-stream** collections: further separation of materials whereby three or more material are collected in separate containers e.g., glass separate from fibres (paper & card) separate from metals.

Of glass (packaging) collections in the UK, the majority is collected via a kerbside co-mingled service, with a lower volume collected via separated streams, and then finally via bring sites and Household Waste Recycling Centres (HWRC)¹¹. It is worth noting that at present 36 local authorities were identified as offering no kerbside collection for glass, instead collecting from bring sites, HWRCs, and local recycling points only (Table 8). Please note that some local authorities manage multiple waste collection operations that differ in comprehensiveness, meaning Table 8 only reflects those not offering any kerbside glass collections. Two further local authorities, Carmarthenshire County Council and East Lindsey District Council, were identified as having introduced a kerbside glass collection within the last year.

¹¹ Percentages may not total to 100% due to rounding.

Table 8: List of local authorities that do not currently provide a kerbside glass collection service – those in bold are located in England and will be subject to the requirements of Simpler Recycling.

Authority	Authority Type
Aberdeenshire	UA
Bassetlaw District Council	WCA
Bracknell Forest Borough Council	UA
Braintree District Council	WCA
Cherwell District Council	WCA
Clackmannanshire	UA
Council of the Isles of Scilly	UA
Dumfries & Galloway	UA
Dundee City	UA
East Suffolk Council	WCA
Exeter City Council	WCA
Fareham Borough Council	WCA
Fife	UA
Gosport Borough Council	WCA
Gravesham Borough Council	WCA
Havant Borough Council	WCA
Havering LB	WCA
Highland	UA
Inverclyde	UA
Kirklees MBC	UA
Leeds City Council MBC	UA
Newark and Sherwood District Council	WCA
Northumberland	UA

Authority	Authority Type
Perth & Kinross	UA
Portsmouth City Council	UA
Reading Borough Council	UA
Rushcliffe Borough Council	WCA
Scottish Borders	UA
Sevenoaks District Council	WCA
Shetland Islands	UA
Tendring District Council	WCA
Test Valley Borough Council	WCA
West Dunbartonshire	UA
West Lothian	UA
West Suffolk Council	WCA
Wokingham Council	UA

Notes: UA – Unitary Authority, WCA – Waste Collection Authority

How the glass is collected at kerbside will determine what happens to the material after collection, with evidence from the glass industry demonstrating the link between separated collection methods and higher quality, and so potential end markets. If the glass is collected co-mingled with other recyclables, the material will be sent to a Material Recovery Facility (MRF) where the glass is separated from the other recyclables. Non-glass items will be removed by technologies that use magnets, Eddy currents, and air suction. After transferring the glass to a glass reprocessor, it is sorted by colour and crushed into cullet.

Where glass is collected as a separate material stream at the kerbside, it may be bulked and hauled direct to the glass reprocessor. As will be noted in a latter section ([Cost and PRN](#)), **recovered glass sent to MRFs commands a much lower price than glass which is collected separately and yields a lower quality cullet for remelt.** This drop in value is caused by the higher levels of contamination in co-mingled glass, and damage caused due to handling in the MRF process. The lower quality of the recovered glass that goes through a MRF limits reprocessing options and leads to less of the recovered glass being reprocessed via remelt and more going to open loop end uses, such as use as an aggregate.

Consumer Research in 2020 showed that 73% of consumers agree or strongly agree that they would be more likely to recycle glass packaging if household collections were more frequent. When they were asked which recycling measures they would like to see improved, the majority said that the best way to increase glass recycling is through improved kerbside recycling (73%) and more bottle banks (69%).

Across the UK, the number of recycling bring sites has declined over recent years. This has been driven by improved kerbside collections, legislation changes, fly-tipping at bring sites, use of the bring sites for commercial/trade waste, and the economics of operating them, meaning many are disappearing from towns and cities. Some local authorities see the main purpose of the recycling bring sites to fill the gaps in what is collected kerbside. Recycling bring sites will come under further pressure as alternative outlets for recycling become available to residents, such as nations where glass is in scope for the deposit return scheme (DRS) and the rollout of Simpler Recycling in England.

Recovered glass sent to MRFs commands a much lower price than glass which is collected separately.

Recycling bring sites can be important in rural communities where kerbside services are not always viable, and in Scotland, provision of recycling banks is a form of household collection in line with the Scottish Charter for Household Recycling. Bring sites also offer flexibility to communities, for example, where excess recyclables are generated during summer seasons in tourist areas. Table 9 provides compositional estimates for the UK waste streams and the glass contained in them from 2017. The analysis differentiates between non-packaging and packaging glass, where more recent data concentrates on just packaging data. Bring sites and street bins tend to have the highest proportions of glass, but of note is the large tonnage of glass in kerbside household residual waste collections (almost 400k tonnes).

Table 9: National waste composition estimates for the UK, all household waste and recycling streams (2017).

	Kerbside Household Residual	Kerbside Household Recycling	HWRC Household Residual	HWRC Household Recycling	Bulky Waste Collections	Street Sweepings Cleansing and Litter	Bring Site Recycling	Street Bins Recycling	"Other Means" Household Recycling	Total
Packaging glass	329,873	1,229,350	45,492	49,220	0	60,803	145,709	927	9	1,861,383
Non-packaging glass	53,025	35,924	6,770	1,438	19	272	4,258	27	0	101,733
Total glass arisings	382,898	1,265,274	52,262	50,658	19	61,075	149,967	954	9	1,963,116
Total arisings (all materials)	12,242,359	8,695,144	2,131,862	3,863,071	218,850	948,595	305,244	2,122	11,352	28,418,599
% Glass Content	3.1%	14.6%	2.5%	1.3%	0.0%	6.4%	49.1%	45.0%	0.1%	6.9%

In the UK, responsibility for the collection of recyclable materials from households depends on the local authority structure that is in place. There is a wide range of performance levels seen across the UK with regards the amount of glass collected for recycling. High performing authorities collect over 60kg of glass packaging from households per year, with the best collecting over 100kg. The devolved nations have a single-tier local authority structure, whereby councils provide all local services. Northern Ireland has 11 councils, Wales 22, and Scotland 32.

In England, there are 317 local authorities (as of 1 April 2023). Parts of England have two-tiers of local government:

- 21 County Councils are responsible for waste disposal and HWRCs.
- 164 District, Borough or City Councils are responsible for kerbside waste and recycling collections and ‘bring’ sites.

In other parts of England, there is just one (unitary) tier of local government providing all the local services (waste collection and disposal). There are three main types though exceptions may remain, these are:

- 62 Unitary Authorities.
- 32 London Boroughs.
- 36 Metropolitan Boroughs.
- City of London.
- Isles of Scilly Council.

The predominant service profile offered to citizens across each nation is varied, as shown in Table 10 by proportion of household served. Those in Wales have the highest tendency towards a multi-stream offering, while those in Northern Ireland and England have the lowest.

Table 10: Predominant recycling system offered to households, by nation. The proportions are calculated based on number of households served.

	Multi-stream	Two Stream	Co-Mingled
Wales	59%	18%	23%
Scotland	22%	44%	34%
Northern Ireland	9%	27%	64%
England	13%	37%	50%

WRAP looked at the performance of Local Authorities across the UK, focusing on the top performers and the bottom performers with regards the amount of glass collected for recycling at kerbside as kg/hh/year (kilograms per household per year) in 2020/21. We then selected the bottom and top performers from each of the rurality groups 1-9. Rurality groups are used to group different local authorities together according to their rurality and deprivation level. Please note, the glass collection yields include contamination as it is not possible to exclude this from the dataset. As a result, some of the lowest performing local authorities for overall glass yield offer a separated glass collection, but this glass will be of a much greater quality than in a co-mingled collection.

Rurality and deprivation are two key factors for determining the cost and performance of a local authority's recycling service. For instance, those in urban areas have a higher number of flats (Figure 4); therefore, this classification enables modelling at a national level which accounts for localised differences in collections. WRAP investigated further the waste and recycling collection services operated by the lowest and highest performers. We looked at the number of households provided with collections, the frequency of recycling and residual waste collections, the collection method used for recycling and the containers used for collections.

Figure 4: Average number of flats per rurality group.

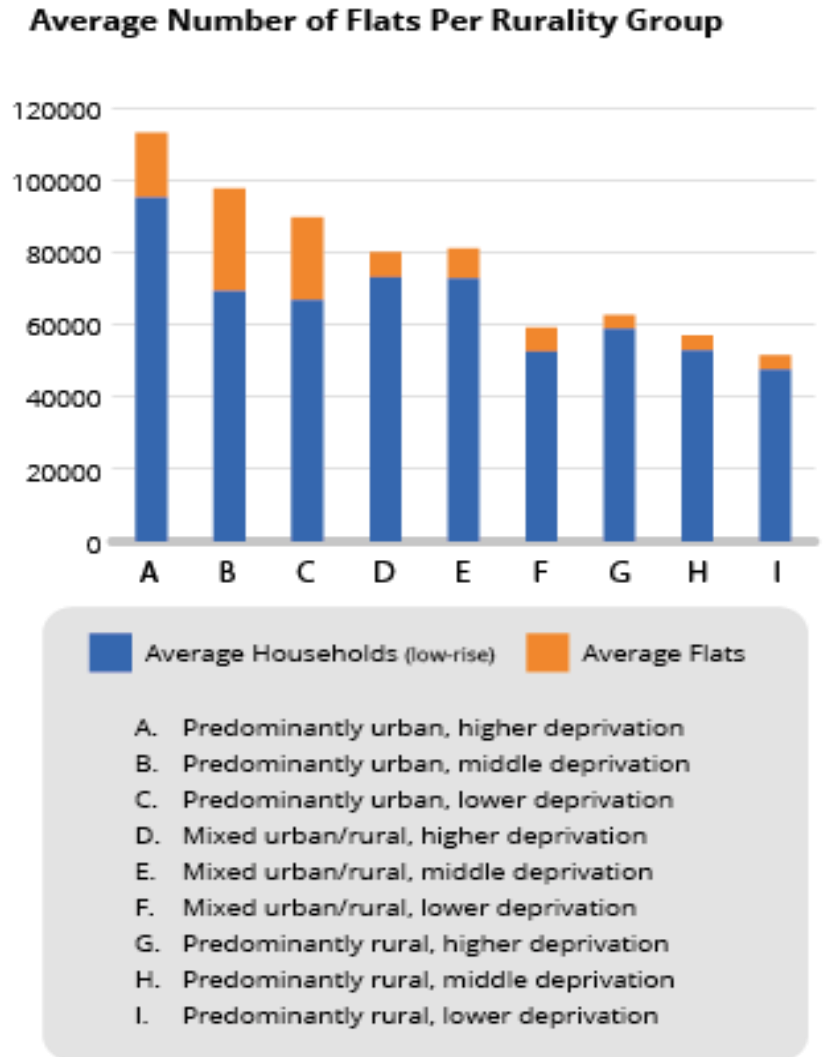


Table 11 and Table 12 list the local authorities with the lowest and highest overall glass yields per rurality group, respectively. The collection performance is correlated with service profiles as per the Appendix¹².

Table 11: Lowest performing local authority by each rurality group (2021/22). UA – Unitary Authority, WCA – Waste Collection Authority.

Local authority	Rurality Description	LA type	Glass kg/hh/yr	Dry recycling %
Belfast City Council	1. Predominantly urban, higher deprivation	UA	20.25	12.69
Tower Hamlets LB	2. Predominantly urban, middle deprivation	UA	28.68	15.80
Camden LB	3. Predominantly urban, lower deprivation	WCA	30.12	21.78
Stockton-on-Tees Borough Council	4. Mixed urban/rural, higher deprivation	UA	36.70	13.14
Milton Keynes Council	5. Mixed urban/rural, middle deprivation	UA	39.20	19.74
Dartford Borough Council	6. Mixed urban/rural, lower deprivation	WCA	24.73	19.30
Armagh City, Banbridge & Craigavon BC	7. Predominantly rural, higher deprivation	UA	15.28	17.66
Lisburn & Castlereagh CC	8. Predominantly rural, middle deprivation	UA	19.54	14.64
West Oxfordshire DC	9. Predominantly rural, lower deprivation	WCA	40.79	15.97

Table 12: Highest performing local authority in each rurality group (2021/22). UA – Unitary Authority, WCA – Waste Collection Authority.

Local authority	Rurality Description	LA type	Glass kg/hh/yr	Dry recycling %
Tameside MBC	1. Predominantly urban, higher deprivation	WCA	90.36	29.27
Southend-on-Sea Borough Council	2. Predominantly urban, middle deprivation	UA	89.13	24.26
Stockport MBC	3. Predominantly urban, lower deprivation	WCA	77.71	26.25
Doncaster MBC	4. Mixed urban/rural, higher deprivation	UA	98.17	22.36
Bury MBC	5. Mixed urban/rural, middle deprivation	WCA	83.62	27.40
Three Rivers District Council	6. Mixed urban/rural, lower deprivation	WCA	86.99	32.08
Durham County	7. Predominantly rural, higher deprivation	UA	95.86	25.67
Chorley Borough Council	8. Predominantly rural, middle deprivation	WCA	96.44	27.90
Buckinghamshire Council	9. Predominantly rural, lower deprivation	UA	122.25	25.71

¹² Dry recycling is the proportion of dry recycle collected of total waste arisings.

The LAs with the higher yields of glass tend to have more two-stream scheme types, with either fibres (cardboard and paper) or glass being collected separately. The frequency of the residual waste is predominantly fortnightly in this group with just one LA providing a weekly residual collection, and one that provides a 3-weekly collection. This could be due to the LAs having less flats/communal domiciles to service than those LAs with lower yields. Due in part to the overwhelming number of English authorities (317, representing 83% of all in the UK) the top performers were entirely English local authorities. However, **over half of Welsh authorities (12 of 22) were classified as Rurality 7, with 6 of these being in the top 10 best performers of this rurality grouping.** Table 13 demonstrates the performance of the top 10 local authorities in Rurality 7¹³.

Table 13: Performance of local authorities in rurality group 7 (Predominantly rural, higher deprivation). Those in bold are in Wales. UA – Unitary Authority, WCA – Waste Collection Authority.

Local authority	LA type	Glass kg/hh/yr	Dry recycling %
County Durham	UA	95.86	25.67
Rhondda Cynon Taff CBC	UA	93.09	38.29
Flintshire County Council	UA	78.49	28.79
Gwynedd Council	UA	78.16	47.79
Bolsover District Council	WCA	77.86	22.70
Bridgend CBC	UA	77.42	38.13
Conwy CBC	UA	77.06	28.72
Denbighshire County Council	UA	76.86	30.42
South Holland District Council	WCA	75.06	27.94
North Northamptonshire	UA	72.95	27.48

The service profiles for the highest and lower performers (see Appendices) look at the number of households served, the frequency of dry recycling collections, the collection method (glass co-collected with other materials, glass collected separately), and the kerbside container provided for the dry recycling materials. The table also includes the frequency of residual (non-recycling) waste collections and the container provided for that waste stream. The lowest performing local authorities tend to have high numbers of flats/communal properties that are provided with bulk bins for waste and recycling that tend to be collected on a more frequent basis. Six of the local authorities with lower glass yields provide separate glass collections to at least a portion of their residents but this indicates that, of lower collected volumes, the quality of the material is likely higher and will require less

¹³ Dry recycling is the proportion of dry recyclate collected of total waste arisings.

sorting. **The more materials are mixed together at kerbside, the more effort (time, money, and resources) is required to separate them out again** – a process which will not meet the same quality standards possible compared to separated collections.

There were five LAs providing a weekly residual collection to all residents. This can be for various reasons, including a high number of flats or inner-city areas that have little storage space. However, it is accepted that recycling rates usually increase when the frequency of residual collections moves to fortnightly or less.

As well as looking at performance and service data, WRAP carried out a desk-top study to look in greater detail at the collections that are provide by the highest and lowest performers. We spoke with a number of those local authorities identified in the tables above. Focusing on issues such as container provision, communication, and engagement with citizens on recycling and arrangements for the treatment and processing of collected glass.

Collections

Of those that collect glass at the kerbside, the majority collect from all their households including flats and hard-to-reach/rural properties. One authority offers a 55-litre kerbside glass collection to 57% of households. Of the LAs from Table 12 on glass performance, and where there is a twin-stream collection in place, glass tends to be co-collected with cans and plastics and in either 180-litre or 240-litre wheeled bins, meaning that paper and card tend to be the separated stream. Where glass is separated, it tends to be via a 55-litre box, with container colour varying from black, brown, green, and blue. **The reasons given for collecting glass as a separate stream include reduced potential contamination of other dry recyclables, and the encouragement of higher quality glass remelt for container use and improving circularity.** The majority of councils we spoke to do not provide glass collection bring sites. Those that do are aware that a proportion of glass collected will be trade/commercial. Receptacles/containers for glass are however provided at most HWRCs¹⁴ though tonnages through that route are relatively low.

Issues highlighted by local authorities with separate glass collections include manual handling (Health and Safety) issues because of the weight of a kerbside box when full of glass, with crews either emptying the box directly into the vehicle or a slave/support bin first. [Noise levels during collection](#) are also a concern for authorities. When glass is not separately collected the presence of the other materials dampens the noise when loading into the vehicles.

¹⁴ Household Waste Recycling Centre

Communications

Even the most efficient recycling service needs to be effectively communicated to residents to ensure correct and maximum participation is achieved. Local authority communications and engagement must ensure the benefits of glass are understood by citizens and that all glass packaging is recycled. All glass packaging can carry the 'widely recycled' logo if the brand/retailer of the product is a member of 'On-Pack Recycling Labelling' (ORPL) scheme which is managed by OPRL Ltd. From 2026, brand owners and importers will be required to label the majority of packaging products with a label instructing consumers to 'Recycle' or 'Do Not Recycle', and an accompanying logo – for more information see section on [Extended Producer Responsibility \(EPR\) and the Packaging \(Export\) Recovery Note \(P\(E\)RN\) System](#).

The more materials are mixed together at kerbside, the more effort (time, money, and resources) is required to separate them out again.

None of the councils we spoke to have delivered a communications campaign focusing solely on glass recycling. Generic communications covering all waste and recycling services include collection calendars (delivered annually or bi-annually), leaflets, articles in council publications, information on council websites and social media posts. For example, guidance from [Durham](#) and [Tameside](#) includes simple and clearly labelled examples of packaging materials and the containers they should go in. Milton Keynes, one of the lowest performers, have recently updated its service profile to a twin stream approach (co-mingled plus separate paper and cardboard), with updated [guidance](#) including a simple, colour-coded bin system and a full year calendar of the collection dates.

In terms of messaging, there is an even split between those local authorities that tell residents they can recycle all glass packaging and containers and those that specify glass bottles and jars only. There is mixed messaging however with regards to lids and caps. Some councils ask for the lids to be removed and placed loose in the recycling container, other councils ask for the lids to be placed into a separate kerbside container for recycling with the metals stream (tins and cans) and others ask for lids to be put back onto bottles and jars following rinsing. [WRAP's advice on the Recycle Now locator](#) is to put lids and caps back on as this reduces the chance of them getting lost during the sorting process as they can be recycled separately.

Reprocessing

We asked the local authorities about responsibility for the contracts for the re-processing and treatment of the glass they collect. Generally, in two-tier authority areas, or where waste partnerships exist, the disposal routes will be decided by the waste disposal authority or lead authority. For waste collection authorities, processing and disposal routes are sourced by the local authority themselves (in-house collection service) or by the waste management company as part of a collection contract.

The majority of local authorities know the final destination of the glass collected. There is a mix of routes including UK remelt, aggregates, and for one authority their clear glass is exported to the Netherlands for recycling into containers.

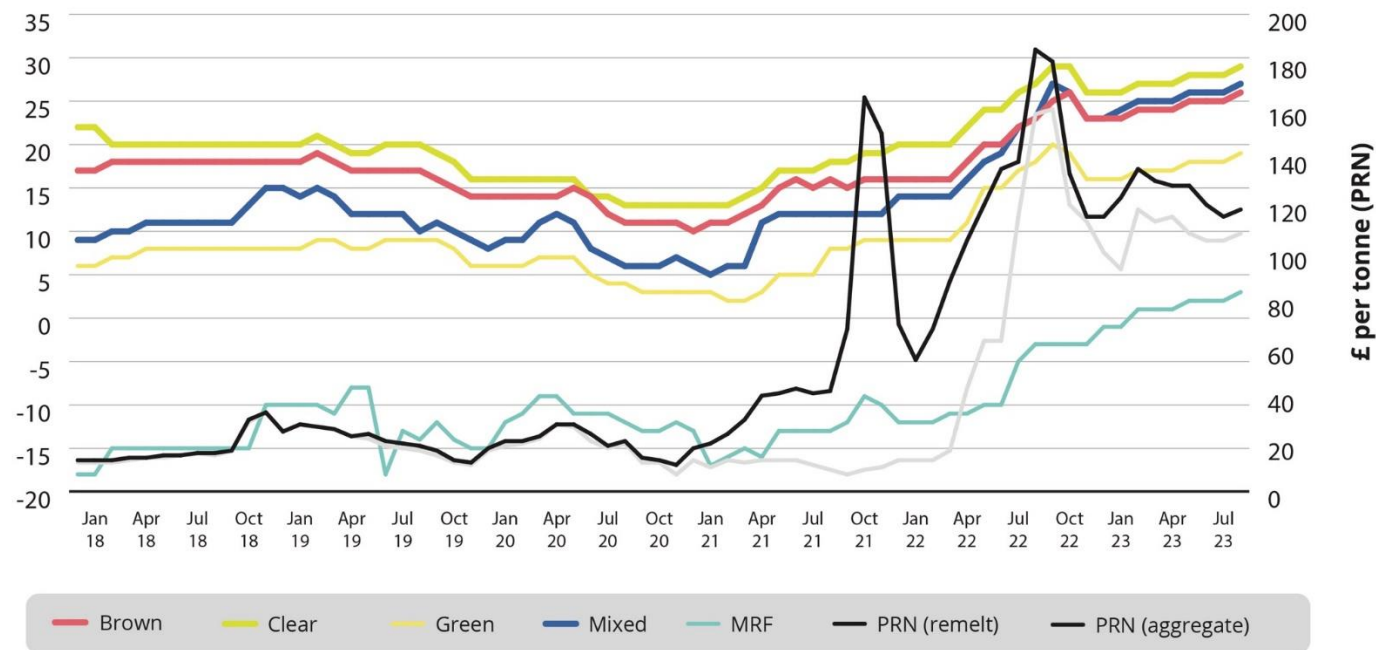
The end destination does seem to have an influence on who local authorities supply its waste glass to. Some of the comments received included that the end destination is important for the circular economy and supporting local jobs. Contract specifications may state that glass should be managed in a manner that promotes high quality recycling.

Most of the local authorities provide information on end destinations to their residents via their council website.

Cost and PRN

[LetsRecycle](#) produce a range of [cost estimates for recovered glass](#), the prices are presented for container glass in £ per tonne 'ex works'¹⁵ collected by a contractor/glass recycling plant. The grades of recovered glass covered are brown, clear, green, mixed, and MRF glass. In addition to this [LetsRecycle](#) also collect [PRN prices for remelt and aggregate glass](#) where the PPN price is in £ per PRN/one tonne of material. The PRN price reported covers both PRNs and PERNs, which cannot be disaggregated from one another. Figure 5 below gives the mid-point value for each of the glass grades and PRN prices, the PRN prices are presented on the secondary axis.

Figure 5: Collected glass and PRN price trends January 2018 to September 2023. Source: [LetRecycle.com](#).



¹⁵ 'Ex works' is a type of shipping arrangement wherein the seller makes a product available at a specific location, but the buyer is required to pay the transport cost.

The value of recovered glass follows a clear trend over time. From 2018-2019 there is relative stability, this is followed by a gradual drop from 2020 to April 2021. After April 2021 prices start to increase rapidly, and despite some fluctuations have continued to rise with September 2023 representing peak, or near peak, prices over the previous five years. This trend has also held true for MRF glass, though there has been considerably more fluctuation in the value of MRF glass. The spike in the value of recovered glass after April 2021 tracks very closely with the sudden increase in the value of a remelt PRN which began to rise rapidly in January 2021. The value of aggregate PRNs has also risen dramatically but started much later, around April 2022.

The increase in the value of both remelt and aggregate PRNs can be seen in data collected by NPWD¹⁶. **PRN revenues for domestic glass remelt rose by over 7.5x from 2018 to 2022 and over 6x for exported glass remelt.** For glass used in 'other' purposes (primarily aggregate) PRN revenues rose by over 5x though this cannot be split between domestic and export revenue. The increase in PRN revenues for glass packaging is considerable considering the limited period of time covered, especially from 2020 to 2022. The revenue for glass 'other' is not split by operator types as this would breach regulation¹⁷, the confidentiality of commercial or industrial information where such confidentiality is provided by law to protect a legitimate economic interest.

The change in PRN revenue for glass reprocessed via re-melt both domestically and from export. Figure 5 clearly demonstrates the very rapid increase in PRN price for re-melt starting in 2020. PRN revenue from glass re-melt exports also increases during this time period but to a lesser extent. As explained above due to data restrictions PRN revenue from glass 'other' cannot be split export for reprocessing and domestic reprocessing, however, PRN revenue from the combined glass 'other' has followed the same trend as glass re-melt export revenues.

The value of recovered glass packaging along with the costs of PRNs and PERNs are important aspects of the overall value chain of recovered glass, however other key factors also exist. The costs of glass packaging collection and sorting also form an important part of the overall value chain of recovered glass packaging and play a large role in determining the overall profitability of glass packaging recovery operations. However, data for the costs of glass packaging collection and sorting is not readily available. Costs for the collection of glass packaging are not easily disaggregated from the costs of other materials such as plastic packaging, with data from local authorities who bear responsibility for the majority of glass packaging collected also not readily available or indeed collected at the required level of detail. The cost of sorting glass packaging is again not easily available, data is often covered by confidentiality agreements or is not shared on grounds of commercial

PRN revenues for domestic glass remelt rose by over 7.5x from 2018 to 2022 and over 6x for exported glass remelt.

¹⁶ <https://npwd.environment-agency.gov.uk/Public/PublicSummaryData.aspx>

¹⁷ Specifically: [EIR Regulation 12\(5\)\(e\)](#)

sensitivity. The lack of data for sorting and collection costs represents a significant data gap, one where further research should be conducted in order to close it. Nonetheless, WRAP estimates that on average the collection and sorting costs per tonne of glass are approximately £70 when collected in a dry recycling scheme, and approximately £177 when collected via a residual scheme¹⁸. The higher costs from residual treatment are due to the likes of high landfill tax and Energy from Waste fees, and concomitant lower fees from collection for recycling (e.g. lower costs to off-take glass for reprocessing in comparison).

Recovered glass collected separately receives a higher price than glass collected co-mingled which must go through a MRF process¹⁹. A recent MRF report has estimated that there are 108 MRFs in the UK that annually receive more than 1,000 tonnes of dry mixed recycling²⁰. However, the UK Waste Data Interrogators list 212 facilities that have been issued a 'Material Recycling Facility' permit and report wastes received and removed to the Government. These facilities reported 878,870 tonnes of glass wastes removed from their sites in 2022, giving an indication of their actual operational capacity (estimated total operational capacity in Great Britain is circa 1.5 million tonnes for glass packaging). It is worth noting that not all facilities with a MRF permit are MRFs because, for example, some sites have either inherited a permit from previous activities or are a basic waste sorting site that use hand pickers but are still considered a MRF. Moreover, there is an imbalance in terms of geographical distribution of capacity (i.e. reprocessing sites in the North are located away from high production areas in the South) and colour processing capacity (i.e. deficit of green glass capacity compared to waste arisings) due to consumption patterns (e.g. wine). This may also lead to incentives to not fully utilise domestic capacity and export waste glass for reprocessing.

¹⁸ 2021 figures calculated on the basis of total collection and sorting costs being attributed to volume proportion in a collection vehicle of each material type, based on material bulk density. These numbers should not be used as an indication of EPR costs or the method that will be used for their actual calculation.

¹⁹ [Glass prices 2023 - letsrecycle.com](https://www.letsrecycle.com)

²⁰ [Monksleigh](#) (2023), Material Recovery Facilities (Qualifying Materials): Market Overview

The quality of the input material at reprocessors influences the value and potential end destinations of the recovered glass. Part of the reason for this is that optical sorting technologies used for separating glass by colour at reprocessors usually require glass fragments over a certain size (typically >10mm), so where material is received at a facility that is too small to be sorted (therefore low quality), it is sent for open loop recycling – this is more common when glass is co-mingled. Glass that has been processed through sorting facilities before arriving at reprocessors tends to be smaller than glass collected separately and is therefore more suited to open loop recycling. The number, size, and type of reprocessors located in the UK are presented in Table 14 and Table 15. Note some glass reprocessors will operate both remelt and other activities, the numbers are not exclusive of one another.

Table 14: Number of glass reprocessors by size and country.

Country	Number of reprocessors		
	Total	Large	Small
England	34	30	4
Wales	2	2	0
Northern Ireland	10	9	1
Scotland	7	7	0
Total	53	48	5

Table 15: Number of glass reprocessors by operation.

Country	Number of reprocessors	
	Glass Other	Glass Remelt
England	16	18
Wales	1	1
Northern Ireland	8	2
Scotland	3	4
Total	28	25



4.0

Key Enablers

To meet the ambitious target of collecting 90% of glass packaging in the UK for recycling by 2030, with a focus on remelt, it is important that the right levers are in place to capture higher quantities of higher quality glass.

Incoming legislation and surrounding policies will strongly influence market direction and the ability to domestically circularise waste glass.

Policy

As matters on waste are devolved in the UK, each administration (Northern Ireland Executive, Scottish Government, and Welsh Government) and the UK Government is separately responsible for the design and implementation of legislation. Joint approaches for consultative purposes are frequently taken, though divergence may remain. The [Internal Market Act \(2020\)](#) was aimed at preventing internal trade barriers post-Brexit, but has also been the cause of some disparity with respect to scope of specific legislation, notably on the matter of Deposit Return Schemes. Additional waste policy incoming includes Simpler Recycling (in England, formerly Consistency in Recycling), and Extended Producer Responsibility that will affect how material resources, across the UK, will be managed.

While similar measures are being undertaken elsewhere, such as across the EU, the specifics have great potential for divergence, such as the EU's [Packaging and Packaging Waste Directive](#) that has been under review since November 2022. This has the objective of ensuring that all packaging is reusable or recyclable in an economically feasible way by 2030. It will ultimately change the essential requirements for packaging to ensure its reuse and recycling (and the inclusion of recycled content), as well as increase the enforceability of the directive.

There are also global instruments being negotiated for management of specific materials, such as the incoming [UN Plastics Treaty](#), with the ratification of a legally binding instrument due by the end of 2024²¹. This is intended to end plastic pollution and will inevitably impact global supply chains and overall packaging material decisions.

UK

Policy measures set forth in Defra's 2018 Resources and Waste Strategy for England²² includes Extended Producer Responsibility (EPR) for packaging across the UK, a Deposit Return Scheme (DRS), and consistency in household and business recycling in England. Northern Ireland and Wales will also introduce a DRS scheme, with Scotland's delayed onto the same timeline.

²¹ [UNEP: Historic day in the campaign to beat plastic pollution: Nations commit to develop a legally binding agreement, 2 March 2022](#)

²² [Resources and waste strategy for England, 18 December 2018](#)

Extended Producer Responsibility (EPR) and the Packaging (Export) Recovery Note (P(E)RN) System

Extended Producer Responsibility (EPR) is an incoming policy piece that will change how producers make decisions on packaging and materials – intending to make producers cover the full net costs of recovery for what they placed on the market. It is to be based on a yet unannounced Recyclability Assessment Methodology (RAM), with materials having a base fee that is then modulated on recyclability, though the Scheme Administrator (SA) will be able to broaden the environmental criteria that are used to set modulated fees in the future. Due to timelines, there is a separate modulated fees ‘early years’ work piece that will bridge the gap between modulation coming into effect and the RAM being used.

It is due to replace [The Producer Responsibility Obligations \(Packaging Waste\) Regulations 1997](#). It will apply to ‘[household packaging](#)’ which is classed as primary and shipment packaging (secondary and tertiary packaging are classed as ‘non-household’). If an organisation supplies goods to an end-consumer with all (primary or shipment) packaging removed, this should be classed as ‘non-household’, otherwise, if the primary or shipment packaging is supplied to another business or the end consumer it should be considered ‘household’. This means the likes of drinks served in measures taken from an oversize bottle would be out of scope, but alcohol served direct to end consumer in a standard size bottle would be in scope. During the EPR and DRS intervening period those producing materials in-scope for DRS will not be obligated to pay local authority waste management fees for said material under EPR.

EPR implementation across the UK began 1st January 2023, with a data reporting statutory instrument that came into force from February 2023 (amended April 2023) coming into force June 2023²³ - this will extend to England and Wales but apply to England only. Noting that the [Scottish Data Reporting Statutory Instrument](#) came into force in February 2023.

It will mandate obligated producers to collect data packaging supplied through the UK market or imported into the UK. This will only cover data collection and reporting obligations²⁴ – the PRN/PERN system will remain active until at least 2026/2027²⁵. Data reporting is split into [four categories](#):

- **Packaging activity** – this is how you supplied the packaging (e.g., branded, empty, imported).
- **Packaging type** – for example, if the packaging is household or non-household.
- **Packaging class** – whether the packaging is primary, secondary, shipment or tertiary.
- **Packaging material and weight** – such as glass or aluminium, in kilograms.

²³ [The Packaging Waste \(Data Reporting\) \(England\) \(Amendment\) Regulations 2023](#)

²⁴ [Extended Producer Responsibility for Packaging: Summary of consultation responses and Government response, 26 March 2022](#)

²⁵ [Reforms to the Packaging Waste Recycling Note \(PRN\) and Packaging Waste Export Recycling Note \(PERN\) System and Operator Approval: Consultation Document, 26 March 2022](#)

Data reporting is split by organisation size ('large' or 'small' – [defined by turnover and tonnage placed on market](#)), reporting as follows:

Large organisations will need to report whether the packaging:

- Is household.
- Is non-household.
- Commonly ends up in public bins.
- Is a drinks container.
- Is reusable.
- Becomes self-managed waste.

Small organisations need to report:

- Their total packaging weight, excluding drinks containers.
- Drinks containers.

There is a [regulatory position statement in effect](#) for large organisation and compliance scheme data submissions for the October 2023 and April 2024 data submissions only, this also applies in [Scotland](#). For submissions yet to pass, data must be submitted prior to 31st May 2024 with records being retained for 2 years to evidence compliance. Schedules and further guidance on packaging data reports applying to all UK nations is available [online](#).

An [Obligation Checker](#) has been published online to assist businesses in understanding their obligations – earlier publications from Defra provided an overview (Table 16) with nation of sale information in Table 17. The estimated compliance costs were £1.7 billion for 2024²⁶, with concerns raised regarding overall system cost, with P(E)RN also trading highly – see section [Cost and PRN](#). However, it is worth noting that since publication the payment of packaging fees has been deferred for a year, from October 2024 to October 2025²⁷. This deferral does not affect data reporting requirements. Moreover, materials subject to modulated fees must be reported separately from January 2025, with advice planned on which materials will be subject to modulation due January 2024, though no statement has yet been made on what the fees will be or when they will be announced. All these dates are also subject to change.

Table 16: Illustration of businesses level of obligation for waste and recycling. Source: Defra.

Packaging Tonnes	Turnover		
	<£1m	£1m - £2m	>£2m
<25	No obligation	No obligation	No obligation
25 – 50	No obligation	Reporting only	Reporting only
>50	No obligation	Reporting only	Full obligation

Table 17: Illustration of nation of sale obligations. Source: Defra.

Packaging Tonnes	Turnover	
	<£1m	>£1m
<25	No obligation	No obligation
>25	No obligation	Obligated

EPR will also introduce UK-wide labelling obligations using WRAP's *Recycle Now* logo, to be administered by OPRL Ltd., and a binary 'recycle' or 'do not recycle' system without a *de minimis* threshold which will be a requirement from 31st March 2026. The [Office for Product Safety and Standards](#) will be the body responsible for enforcement.



²⁶ [Circular Online - Packaging reforms: bridging the funding gap, 30 May 2023](#)

²⁷ [Extended producer responsibility for packaging: who is affected and what to do, updated 25 July 2023](#)

Deposit Return Scheme (DRS)

A Deposit Return Scheme (DRS) is a system wherein consumers pay a deposit on purchase of a particular items that is paid back when the item is returned to a designated collection point. It is intended to be a method of incentivising recycling and reducing litter by encouraging people to return used containers for reuse or recycling.

DRS would form a new method for collection of drinks containers of various sizes and materials in the UK. DRS implementation is being progressed in the four UK nations and in the Republic of Ireland. The scope of DRS in these nations is outlined in Table 18. Refill is excluded from DRS as the scheme is for single-use drinks containers.

Table 18: DRS launch, deposit, and drinks container volume scope (please note this is subject to possible change).

	Scotland	Republic of Ireland	England & NI	Wales
Launch	October 2025	February 2024	October 2025	October 2025
Container volume	50mL – 3L	150mL – 3L	50mL – 3L	50mL – 3L
Deposit	20p	15c – 25c	TBC	TBC
PET	✓	✓	✓	✓
Aluminium	✓	✓	✓	✓
Steel	✓	✓	✓	✓
Glass	TBC	✗	✗	✓

The inconsistency in the inclusion of glass in DRS has resulted in some issues surrounding Internal Market Act exemptions. In brief, Scotland has delayed DRS implementation to October 2025, in line with the implementation date for England, Northern Ireland, and Wales. The additional delay arose after the Scottish Government requested an exclusion to the UK Internal Market Act 2020 for its DRS scheme. On May 27th 2023 the UK Government published a response²⁸ agreeing to a temporary exclusion but predicated on a maximum deposit cap to be agreed with the rest of the UK prior to launch, and with this only extending to PET plastic, aluminium, and steel cans – thereby excluding glass from the scheme – with the scheme

administrator (Circularity Scotland) having gone into administration soon after²⁸. The Welsh and Scottish administrations were reached out to for comments regarding DRS, the Scottish response is as follows:

“The Scottish Government is committed to increasing glass recycling rates from 63% to a minimum of 90%. We believe that including glass in the Deposit Return Scheme (DRS) is the best way to achieve this, as demonstrated by successful international schemes, where 45 of the 51 schemes around the world include glass. Evidence also shows there is a compelling environmental and economic business case for an ‘all-in’ scheme. However, the UK’s decision to remove glass from its own scheme and refusal to agree a full Internal Market Act exclusion means that we are currently unable to launch our DRS with glass as planned. The Scottish Government remains committed to launching a successful DRS and continues to work closely with the UK government to define next steps for DRS implementation across the country this will include consideration of material scope in Scotland. Up to date information regarding DRS is available at [Deposit return scheme - Managing waste](#).”

For glass recycling rates to be a minimum of 90% of that placed on market, the collection rate must be greater²⁹. The statement on consideration of material scope allows for the possibility of glass to not be included in a future scheme, though this is not a confirmation of a method towards a collection scheme that could reach the minimum 90% recycling rates.

Wales stated that they are yet to apply for exclusion and glass remains within scope (bottles but not jars or other non-beverage glass)³⁰ – discussions are underway with the other administrations on scheme interoperability. Moreover, Northern Ireland will keep under review the inclusion of glass once DRS is fully operational.

There is due to be a Deposit Management Organisation(s) (DMO) that will consist of an industry consortium to manage and oversee meeting the collection targets that are set at 70%, 80%, and 90% for years 1, 2, and 3 onwards, respectively. There is a possibility of separate DMOs as there are separate regulations for DRS establishment, for example in Wales. It has been encouraged that the DMO(s) work with the Scottish scheme for interoperability and reciprocal return arrangement²⁸. The announcement of DMO(s) is due in Spring of 2024, after an application process.

There is future potential for a Digital DRS (DDRS) as this would enable disposal for recycling at kerbside, with the deposit claimed back via the scanning of a QR code on the packaging using a smartphone app. The UK Government’s DRS response also stated “the DMO and wider industry should begin

²⁸ [Policy statement: Scottish Deposit Return Scheme - UK internal market exclusion, 27 May 2023](#).

²⁹ [Briefing Paper: British Glass and Valpak DRS Report](#)

³⁰ Reconfirmed in October 2023.

to explore the practicalities and feasibility of introducing digital solutions to the scheme in the future.” At present there are no explicit confirmations of a DRS scheme, though potential, risk, and interest exist.

Collection Profiles

Simpler Recycling (formerly Consistency in Collections) - England

Simpler Recycling is a legislative piece that will require all local authorities in England to collect a core set of materials, as part of the [Environment Act \(2021\)](#), towards harmonising the recycling collection system. This will apply to households and non-household premises, with the definition of non-household premises due to expand to include the likes of prisons and places of worship.

The core material set includes:

- Paper and card.
- Plastic.
- **Glass.**
- Metal.
- Food waste.
- Garden waste (non-household premises exempt).

This system will involve, more specifically, [glass bottles and containers](#) – including drinks bottles, condiment bottles, and jars – note that glass containers are *out* of DRS scope for England. The original consultation also specified the exclusion of the following for collection in recyclable waste streams: drinking glasses, glass cookware and ceramics – due to technical differences (i.e., composition, melting point). Moreover, that drink bottles not returned under DRS will be included in the core materials set.

In October 2023 the government's response (to the 2021 consultation³¹) was published online³². This was initially expected for implementation from October 2023 in line with EPR, however, these are now expected for alignment from March 2026 for households and from March 2025 for businesses and relevant non-domestic premises³³.

The collection system required to collect the core set will allow for exceptions with respect to 'separate collections'. That being, all councils in England will have the options of offering just 3 waste containers: for dry recycling, food waste, and residual (non-recyclable) waste. The exemption should relate to when it is not technically or economically practicable, or offers no significant overall environmental benefit, to collect separately. This will be confirmed in the regulations. Furthermore, there was a proposal requiring local authorities to collect residual (non-recyclable) waste at least fortnightly.

The government has also stated that they are not prepared to meet the costs of breaking waste contracts, meaning that exemptions for long-term contracts will be stipulated and applied.

Charter for Household Recycling – Scotland

At the end of 2015 the Scottish [Charter for Household Recycling](#) and associated [Code of Practice](#) were agreed upon, led by the Convention of Scottish Local Authorities (COSLA). The Charter contains 21 commitments towards waste prevention, recycling, and reuse. The commitments centre around: service design, consistent policy, service operation, and communications. This includes provisions for creating common collections systems (that include glass) though this can be "at the kerbside or within their local community" it extends to "bottles and jars from food and drink packaging (including metal tops and corks)".

This is expanded on as part of the Code of Practice: for households with access to the kerbside every council should consider that "Separate containers for glass shall be provided to each property or alternatively within the community for communal use"; moreover, that facilitation of colour separation should occur as part of a council's material stewardship duties. If alternative services (i.e., non-kerbside) are operated, the council is required to demonstrate how these services offer the same quantity and quality that would be otherwise exhibited by kerbside glass collections. This can be achieved by showing that minimum benchmark yields are comparable to average kerbside-collected glass services (excluding tonnage rejected at a MRF or by a reprocessor) or that glass arisings in non-recyclable (i.e., residual) streams is comparable to council averages for those who do collect at kerbside.

³¹ [Consultation on Consistency in Household and Business Recycling in England, closed 4 July 2021](#)

³² [Consistency in household and business recycling in England - Government response, 23 October 2023](#)

³³ [Consistency in household and business recycling in England - Government response \(Annex A: Summary of implementation dates\), 23 October 2023](#)

Alternative service provisions surrounding glass must also provide a minimum collection capacity. Each property should have access to at least 10 litres of glass collection capacity in the community if containers are not provided direct to properties. It also stipulates that colour separation can occur at sorting facilities, if it can be demonstrated that the same quantity of glass is available for “high-quality recycling processes (i.e., remelt to glass containers)” as per average kerbside schemes.

There are some limited exceptions to the above for the likes of low population rural settlements or depending on the proximity of the glass collection points.

Common Collections – Northern Ireland

In 2020, DAERA published a [Discussion Document](#) on future recycling and separate collection of municipal waste. The paper included proposals to develop Common Collections Guidance for household and non-household waste and recycling services. The development of Common Collections Guidance supports other NI policy developments, including the [draft Circular Economy Strategy](#) and the [draft Green Growth Strategy](#).

Following the publication of responses to the Discussion Document in June 2021, DAERA has engaged further with stakeholders, including councils, on how to bring more consistency to collection services. DAERA is expected to publish a formal recycling consultation in 2023. The consultation is expected to include proposals to collect a core set of materials, and that as a minimum glass and fibres should be collected separately from one another.

Northern Ireland passed landmark legislation in 2022 with its [Climate Change Act](#). The Act contains several significant commitments to tackle climate change, set NI on a trajectory to Net Zero and improve the environment as well as growing the green economy. The Act sets a target for at least 70% of waste to be recycled by 2030 and for paper, metal, plastic and glass to be separately collected.

The Waste Regulations (Northern Ireland) 2011 ([section 18](#)) also require any collection system deviation from a separate collection to be able to produce comparable quality materials to ensure that environmental benefits are maximised. The other conditions are where separate collection does not deliver the best environmental outcome, or it is not technically feasible, or it would entail disproportionate economic costs.

Collections Blueprint and Waste Separation Requirements – Wales

Collections Blueprint

The Welsh Municipal Sector Plan that sets out the [Collections Blueprint](#) was first published in March 2011. It describes the Welsh Assembly recommended service profile for the collection of waste from households, towards higher quality recycling and other benefits, that Welsh local authorities can adopt at their discretion. The preferred system includes the use of waste collection vehicles that facilitate efficient kerbside sort systems, such as those that are side-loaded with multiple separated compartments for each waste stream (including food) – see Figure 6. Note that while typically their operating capacity is around half that of a conventional vehicles savings (in emissions and cost) are still possible after procuring two of said vehicle (compared to a conventional refuse collection vehicle). This is promoted by combined service provision (i.e., a ‘single pass’ service is possible with dry recyclables and food waste collected at the same time). As a result, a kerbside recycling sort is also recommended, with residual bin capacity and collection frequency reduced to incentivise recycling.

This has been in effect for almost 13-years, with the [latest figures from WRAP](#) (2022) showing that the **kerbside recycling capture rate of glass (bottles and jars) was 92%, with just 8% being disposed of in the residual waste stream.**

Waste Separation Requirements

New [regulations](#), due to come into force from April 2024, have been passed by the Senedd that will require non-domestic premises to separate for collection a number of core waste streams. This includes paper/card, metal/plastic/cartons, glass, food waste, unsold textiles, and small WEEE items. There are further requirements for each of these streams to be collected separately and be kept separate after collection to maintain high quality levels for recycling.

Figure 6: Example of the kerbside sort system in operation in Newport, Wales, showing the separate container for glass.



Digital Waste Tracking

The UK Government and devolved administrations have agreed to work together to develop a UK wide waste tracking service. The new system is intended to make it easier to track waste and resources produced from waste throughout the economy and replace the current [WasteDataFlow](#) system; it will also ultimately replace the requirements of completing waste transfer notes and hazardous waste consignment notes.

In early 2022 a new digital waste tracking system was consulted on³⁴ with the government response published October 2023³⁵. It stated that in April 2025 legislation will come into force across the UK, pending “approval across all four legislatures and after parliamentary approval via an affirmative statutory instrument”. However, it will be open on a voluntary basis from 2024 but likely in a phased invitation manner.

It is expected that real time recording will be possible of waste data allowing for better flexibility and accuracy as data is entered closer to the point of action, and that [Standard Industrial Classification \(SIC\)](#) codes will still be used. The relevant SIC codes for glass are:

Code	Description
23110	Manufacture of flat glass
23120	Shaping and processing of flat glass
23130	Manufacture of hollow glass
23140	Manufacture of glass fibres
23190	Manufacture and processing of other glass, including technical glassware
46440	Wholesale of China and glassware and cleaning materials
47520	Retail sale of hardware, paints and glass in specialised stores

³⁴ [Joint consultation on the 'Introduction of mandatory digital waste tracking', closed 15 April 2022](#)

³⁵ [Implementation of mandatory digital waste tracking - Consultation outcome Government response, 21 October 2023](#)

Incinerator Bottom Ash (IBA) Recovery

Incineration is a method of high temperature waste disposal; it sometimes includes energy capture technologies but not always, with different methods used for the burning process such as grate or fluidised bed – grate-based systems are the most common in the UK. The amount of glass sent to such facilities in the UK via residual waste streams, as of 2022, Redacted while awaiting publication of Packflow Refresh report.

As glass does not burn under incineration type conditions, it will form part of the Incinerator Bottom Ash (IBA) that is leftover.

IBA is comprised of a multitude of inert, non-combustible residual materials after the combustion process. It is mostly miscellaneous minerals (50-70%), metals (5-20%), glass and ceramics (10-30%), and unburnt organic material³⁶. The sizes of each fraction can span <1mm to >50mm, with the composition varying depending on size; glass is mostly present in fractions <16mm in size³⁷. Once metals have been recovered, the remaining aggregate has a glass content of approximately 60-70%, mostly in the <16mm fraction³⁷.

The metal fractions (e.g., steel, aluminium) are typically extracted, with an efficiency of approximately 80%³⁸, the remainder is used for purposes such as road sub-base or landfill capping, being deemed a recovery rather than recycling operation. Therefore, glass constitutes a significant fraction of the remaining aggregate.

From 2018, a methodological change was made to the calculation of official UK statistics on waste, to now include metal recovered and recycled after incineration as recycling, rather than recovery³⁹. The data behind this is submitted by local authorities into the [WasteDataFlow](#) system, an online portal for managing municipal waste data. For new waste data to be captured, the system would require a new branch under the 'Q100' reporting structure (this is the process that allows waste sent through several treatment processes to be recorded) specific to glass from IBA. However, a new digital system has been consulted on, with legislation coming into force from April 2025. The new system *should* enable improved data capture for waste tracking and help improve the accuracy of figures as per section [Tonnes Placed On Market](#). The new system *may* permit reclassification of some materials as recycled rather than recovered, depending on the improved resolution and accuracy of data, and the types of treatment processes that have occurred.

³⁶ Journal of Hazardous Materials, Vol. 393, Michal Šyc et al., [Metal recovery from incineration bottom ash - State-of-the-art and recent developments](#), 122433, July 2020.

³⁷ A: Science of The Total Environment, Vol. 581-582, R. del Valle-Zermeño et al., [Material characterization of the MSWI bottom ash as a function of particle size. Effects of glass recycling over time](#), Pages 897-905, March 2017.

B: Waste Management, Vol. 102, Florian Huber et al., [Complete determination of the material composition of municipal solid waste incineration bottom ash](#), Pages 677-685, February 2020.

³⁸ [Confederation of European Waste-to-Energy Plants – Bottom Ash Factsheet, 2018](#)

³⁹ [Defra - Statistics on waste managed by local authorities in England in 2018/19 \(section 6.5, page 25\)](#)

Further changes are dependent on economic viability, as there are stronger financial incentives behind the recovery and recycling of metals from IBA. This is, in part, due to the market prices they can demand, the ease of recovery (e.g., making use of magnetic and Eddy current separators), and for final aggregate specifications. Technologies exist for the recovery of glass from IBA, namely sensor-based systems, though discussions with IBA processors highlighted major difficulties to their uptake, namely:

- Low volume handling abilities, unable to match that of IBA processing volumes.
- High capital expenditure requirements for individual sensor units, that is exacerbated by the volume limitations.
- Limited space for reconfiguration requirements of sorting lines.
- Small particle size makes extraction of glass after detection difficult.
- Differing incineration plant designs mean the morphology and quality of IBA glass is not consistent, and some incineration technologies (namely grate based) do not lend themselves well to sensor-based sorting systems (especially on colour identification – see Figure 7)⁴⁰ – moreover, the final quality of recovered glass would be low and lack viable markets.

⁴⁰ Waste Management, , Vol. 168, Julia Mühl et al., [Glass recovery and production of manufactured aggregate from MSWI bottom ashes from fluidized bed and grate incineration by means of enhanced treatment](#), Pages 321-333, August 2023.



Figure 7: Sensor-based separated glass-fractions 8–35 mm from incineration bottom ashes from fluidized bed (top) and from grate (bottom) – demonstrating optical quality variation between different incineration systems.

Reprinted from: Waste Management, Vol. 168, Julia Mühl et al., [Glass recovery and production of manufactured aggregate from MSWI bottom ashes from fluidized bed and grate incineration by means of enhanced treatment](#), Pages 321-333, August 2023.

Discussions with IBA reprocessors stated that fluidised bed systems are uncommon in the UK, with most operating a grate-based system. Thus, it is technically possible to detect, recover, and record glass recovered from IBA for recycling though at this time it would not be deemed economically viable nor incentivised – especially due to the small size and low quality of recovered glass, rendering it unsuitable for remelt.

Redacted while awaiting publication of Packflow Refresh report.

It would be

advised to focus efforts on collecting for recycling glass that is lost to residual collections than attempt to recover post-incineration.

EU

In the EU, glass packaging waste totals just over 15 million tonnes each year, representing approximately 19% of the 79 million tonnes of packaging waste generated in the EU each year.⁴¹ The predominant legislation that covers this waste is the Packaging and Packaging Waste Directive, as well as the likes of the Waste Framework Directive and surrounding regulations.

Packaging and Packaging Waste Directive and Regulations

What are they?

The [Packaging and Packaging Waste Directive \(PPWD\)](#) is an instrument designed to ameliorate issues surrounding the use and disposal of packaging materials. It obligates member states to meet requirements on recycling and reuse, and to remove barriers erected by different nation states adopting different rules on packaging design. The directive applies the EU waste hierarchy, set up by the EU Waste Framework Directive ([Directive 2008/98/EC](#)). Objectives of the PPWD, including the 2018 revision ([Directive \(EU\) 2018/852](#)), include:

- Harmonising national measures on packaging and the management of packaging waste.
- Providing a high level of environmental protection.
- Ensuring the good functioning of the internal market.
- Preventing the production of packaging waste.
- Promoting the reuse, recycling and other forms of recovering of packaging waste, instead of its final disposal.

It set out a series of specific targets for recycling rates by material category, with those for glass reaching an 75% recycling rate by 2030 as shown below.

⁴¹ [European Parliament - Briefing on Revision of the Packaging and Packaging Waste Directive, November 2023](#)

	Current Target (%)	By 2025 (%)	By 2030 (%)
Plastic	25	50	55
Wood	15	25	30
Ferrous metals	50 (incl. Al)	70	80
Aluminium	-	50	60
Glass	60	70	75
Paper and cardboard	60	75	85
All packaging	55	65	70

The EU's [Circular Economy Action Plan](#) announced initiatives to double the EU's rate of circular material use by 2030 and, in combination with the (under revision) PPWD, aims to promote reuse through measures such as design.

What is changing?

The directive is currently [under review](#), meaning specifics are not yet finalised, though it will take a regulatory approach. The underpinning principles are not likely to change but the measures, targets, and implementation are, with clearer objectives and greater harmony in approach, with requirements across the entire packaging value chain. Primarily:

- All packaging placed onto market will be required to be recyclable.
- Design for recyclability criteria, and recycling performance gradations.
- Implementation of Extended Producer Responsibility and rules governing modulated financial obligations.
- Packaging minimisation, to limit excessive usage.
- A series of 8 conditions that define reusability⁴².

⁴² [Article 6](#) lays the prerequisites for *recyclable packaging*. The criteria for designating packaging as reusable is covered under [Article 10](#).

The [Regulation and Directive proposal](#), which recently [passed the voting stage](#), makes some specific mention of glass or collections systems that would pertain to glass. The [Nov. 2023 briefing document](#) includes the proposal that member states must ensure that 90% of materials contained in packaging (plastic, wood, ferrous metals, aluminium, glass, paper and cardboard) are collected separately by 2029. [Article 43](#) makes the separate collection stipulation but without reference to the collection rate. It proposes that member states must “provide for the return and separate collection of all packaging waste” towards facilitating “high quality recycling”. Allowance of collections with other materials is given, but it recognises the higher quality achievable through separated collection, thus that the “output from those operations ... is of comparable quality to that achieved through separate collection.” The 90% collection rate pertains to [Article 44](#) on Deposit Return Schemes. However, glass is not in scope for the obligated deposit return schemes that member states must establish, with only single-use plastic and metal (including aluminium) beverage containers (up to 3L in capacity) explicitly stated.

Packaging Design

Packaging design is another determinative stage for the quality of cullet. It presents a pivotal opportunity for change towards improving overall recyclability and quality for closed loop purposes; moreover, to stimulate consumer knowledge and understanding of correct disposal behaviours.

From engagement with industry, it is clear organisations are emphasising sustainable packaging solutions by positioning design for recyclability as a priority when producing glass products/packaging. Brands are publicly stating organisational plans to look toward circular economy initiatives and sustainable packaging practices to reduce waste and environmental impact.

Design for recyclability is high on the agenda, however, communicating these efforts is not a priority for the brands and retailers we have engaged. There has been planned communications to citizens in Northern Ireland from brands, although, currently in the UK the OPRL, or incoming mandatory labelling system, is seen as a sufficient effort to inform the public on recycling glass waste. This lack of engagement means there is a reliance on the information provided by local authorities to ensure citizens perform the right behaviours when approaching their kerbside bins with waste. Brands and retailers see glass recycling as an established behaviour, which goes back to the 1970's, with relatively good engagement from citizens. Further citizen engagement would be beneficial to support glass collection. Organisations we have engaged have stated the collection and sorting processes in the UK as totally insufficient to cover demand.

To state the prominent features of good design for recyclability, the current British Glass guidance on ['maximising the recyclability of glass packaging'](#) should be used alongside that of [SUEZ](#), [REPAK](#), and [VEOLIA](#) for brand owners and packaging designers to incorporate.

Collection Systems

From research conducted here, considering the UK policy landscape, glass tonnages and amount lost to residual waste streams, plus local authority service profiles – the key factor for improving glass collection rates, and most importantly quality for remelt operations, is the collection system used.

Compared to France and Germany, the UK closed loop recycling rate is behind by 20 to 30%, the primary culprit being co-mingled recycling collections. Part of the co-mingled appeal is it being considered easier to operate and manage at kerbside compared to separated streams. However, as per the Welsh Collections Blueprint the use of kerbside sort multi-compartment vehicles can save operating costs and offer a ‘single pass’ service where all dry recyclables and food waste can be collected at the same time. Moreover, compared to co-mingling, there is less material breakage meaning a higher yield of glass suitable for cullet applications – thus scope for improvements in recycling rates with separated services. This is evidenced by the types of collection systems used from the lowest and highest performing local authorities for glass capture rates by rurality – see section: [Local Authorities](#).

When recycling is offered at kerbside with separate streams the clear demarcation between receptacles for different materials (e.g., see Figure 8) provides a clearer indication of correct recycling behaviours when compared to co-mingled streams, and is correlated with positive social norms for recycling² and lower contamination. For example, the analysis of local authority collected Welsh Municipal Solid Waste (MSW) conducted by WRAP showed that **the proportion of non-target material found within separately collected waste was 6.4%, while it was 8.2% for material collected through a twin stream service, and 20.3% in fully co-mingled service**⁴³. Moreover, the movement to separated streams is beneficial to the quality of not just to glass, but other recyclable materials (e.g., fibre-based such as paper or card).

Regardless of the collection scheme type adopted communications will still be necessary, with [WRAP guidance to local authorities on tackling contamination](#)⁴⁴ explicitly stating that greater clarity is necessary to avoid critical contaminants for glass (e.g., ceramics, flat glass). The ability and ease



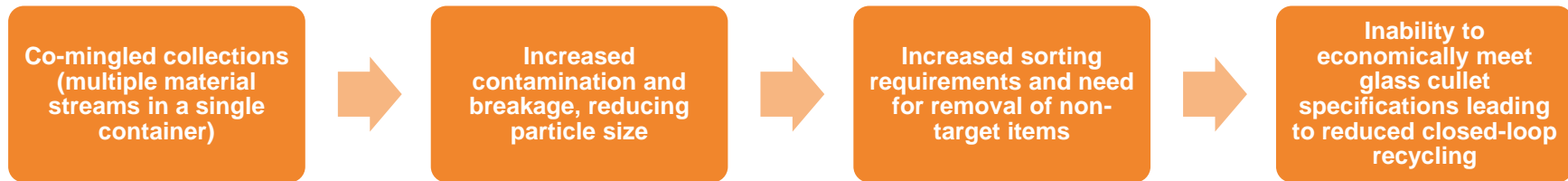
Figure 8: Example of a kerbside separated glass collection box from Newport, Wales.

⁴³ [WRAP – National Municipal Waste Composition in Wales, July 2023](#)

⁴⁴ [WRAP – Tackling contamination in dry recycling, 18 July 2023](#)

of providing feedback to householders is better facilitated when non-target material capture can be identified easily.

In the Simpler Recycling government response [proposed minimum fortnightly residual collections](#), however, devolved administrations have stated in their collections documentation that reduced residual bin sizes and collection frequencies are positively correlated with improved recycling rates⁴⁵. Moreover, it is worth considering that in The Environment Act 2021 there is a [prospective condition](#) that (in England) recyclable household waste in each recyclable waste stream must be collected separately, however, that “two or more” streams may be collected together where it is not technically or economically practicable to collect separately or that doing so has no significant environmental benefit.



Thus, even a single material collected separately could alleviate many of the contamination and quality issues at the point of no return: kerbside. It is recommended that case studies highlighting the typical performance splits between local authorities that entirely co-mingle and those that offer some form of separated stream be developed. This would ideally be accompanied with business cases that reiterate the economic and environmental benefits of separate collections, and point out that the form of the separate streams does not have to equate to completely separated collections for every stream or even specifically glass, with many of the highest performing local authorities operating different twin stream approaches (e.g. a co-mingled collection and then another that separates out only paper & card (Southend) or only glass (Durham)). This would ideally take a UK nation approach but also pull from European neighbours in which such systems have surpassed teething stages. This should be directed towards the Scheme Administrator and government at national levels.

To improve the quality of glass for remelt operations, it is paramount to reduce contamination. Once non-target materials and contamination are mixed into a particular material stream no sorting process will be able to remove these with 100% efficiency. Actions that minimise contamination from the point of citizen disposal will play a pivotal role in improving quality. This could be achieved with the separation of materials into different streams at kerbside combined with clear, strong communication and education campaigns for citizens to take such action.

In Wales, the proportion of non-target material found within separately collected waste was 6.4%, while it was 8.2% for material collected through a twin stream service, and 20.3% in fully co-mingled service.

⁴⁵ [WRAP – Analysis of recycling performance and waste arisings in the UK 2012/13, July 2015](#)



5.0

The Roadmap

The following timeline lays out dates of political intent for new regulations and subsequent suggested actions to help drive up glass collection quantity and quality for recycling, especially at kerbside.

From the current findings and survey work it is critical to address the lack of knowledge at a consumer level and achieving separated collections wherever possible will be the biggest drivers to improve capture rates and quality. The risk of confusion in the coming years must be mitigated.

Timeline & Milestones

The following timeline lays out the dates of political intent of when new regulations will be coming into force and the subsequent suggested actions that will help drive up the collection rate of glass for recycling, especially at kerbside. It also considers other factors that should help to improve the general level of information about glass and waste in general, that should be used to review and inform later activities (such as new waste tracking systems, concomitant EU recycling targets and directive changes). From the current findings and survey work addressing lack of knowledge at a consumer level and achieving separated collections wherever possible will be the biggest drivers to improve capture rates and quality. The risk of confusion in the coming years must be mitigated.

TIME	EVENTS	SUGGESTED ACTIONS
2023	<ul style="list-style-type: none"> • Northern Ireland Consultation on Common Collections. • January – EPR data reporting begins. • October <ul style="list-style-type: none"> ○ Large organisations to submit packaging data for period Jan to June. ○ Simpler Recycling consultation response published. 	<ul style="list-style-type: none"> • With the publication of the Simpler Recycling response comes greater assurance of changes to English kerbside recycling collections. National level campaigns on the recyclability of glass should be sought. WRAP identified 36 local authorities that do not currently collect glass at kerbside, unless an exemption applies in the future, where more direct engagement is advisable towards, at least, some form of separated collection. This would be additionally valuable for the most commonly ‘forgotten’ recyclable glass items such as perfume and aftershave bottles. • Information from the Scottish Charter, English Simpler Recycling, and Welsh Collections Blueprint relevant to improved glass collections and quality should be consolidated and put forwards in the Common Collections consultation.

2024	<ul style="list-style-type: none"> • EU – adoption of the <i>Revised Packaging and Packaging Waste Directive at the earliest.</i> • UK – Digital Waste Tracking (open on voluntary basis). • April <ul style="list-style-type: none"> ○ England, Scotland, Northern Ireland <ul style="list-style-type: none"> ▪ Large organisations to submit packaging data for period July to December 2023. ▪ Small organisation to submit packaging data. ○ Wales <ul style="list-style-type: none"> ▪ Large and small organisations to submit packaging data. ▪ Separated waste collections for workplaces. • December (UK) – nation data for packaging. 	<ul style="list-style-type: none"> • The Packaging and Packaging Waste Regulations will set out new targets for EU nations, including on reuse and recycling, EPR, and design, and possibly separated collections. This will be an opportunity to push for the UK to match or go further but will also influence sustainability trends across Europe. Use the publicised revision as an engine for driving the narrative. • Consider engaging with the new Digital Waste Tracking system – improved data transparency and granularity will help identify points of resource loss which can help focus later efforts. • Communications with workplace premises in Wales will indirectly influence household kerbside recycling behaviour and provide insight into developing future successful campaigns in England and NI.
2025	<ul style="list-style-type: none"> • EU (current) glass packaging recycling target of 70%. • January – Data on materials subject to modulation under EPR must be reported separately. • March (England) – Simpler Recycling applies to businesses and relevant non-domestic premises. • April <ul style="list-style-type: none"> ○ UK – Digital Waste Tracking enforcement. 	<ul style="list-style-type: none"> • Some waste contracts from local authorities will be long-term and will have exemptions from starting at this time point, however, in other cases contracts may link business and household premises, meaning that collections for both may start at this point. Some local authorities will have already begun their preparations and procurement, nonetheless direct engagement with local authorities on communicating with citizens can maximise influence on recycling behaviours.

2025	<ul style="list-style-type: none"> • October (UK) <ul style="list-style-type: none"> ○ DRS (glass in scope for at least Wales). ○ EPR packaging fee (base fee only) – first invoices due. Payment scheduling may differ in the first year (e.g., twice annually). 	<ul style="list-style-type: none"> ○ Communications with businesses and non-domestic premises will indirectly influence future household kerbside behaviour, meaning this will be a key moment for campaigning, and should use learnings from the changes to Welsh collections system for workplaces that occurred in 2024. • The EPR Scheme Administrator can adjust fees for producers who have not self-assessed their packaging for recyclability. Given the inherent properties of glass it is recommended that: <ul style="list-style-type: none"> ○ Major producers are prepared to ensure labelling accuracy (due 2026) with correct self-assessments of packaging recyclability, this will also ensure that fees are accurate, and no undue penalisation occurs. ○ Plus, that British Glass guidance on maximising recyclability is provided to help brand owners further mitigate against any higher fees that may apply to glass packaging. • Welsh Government proposes to include glass in DRS, meaning that bespoke communications should be set up ahead of time, this should include bordering English authorities to reduce local confusion. A similar approach should be taken if Scotland’s DRS system is in operation and includes glass at this point.
2026	<ul style="list-style-type: none"> • EPR invoices intended quarterly. First eco-modulated invoices to be sent circa July, based on 2025 packaging data, for the 2026/2027 local authority costs. 	<ul style="list-style-type: none"> • Packaging will now require the binary recycling label. Most glass packaging will therefore feature the recycling <i>Swoosh</i> logo, pending EPR modulation decision; this will coincide with harmonised collections in England. When the fees are announced swift and

	<ul style="list-style-type: none"> • March <ul style="list-style-type: none"> ○ UK – EPR labelling obligations. ○ England – Simpler Recycling applies to households. 	<p>direct engagement with brand owners, using British Glass guidance on maximising recyclability, recycled content, and glass sustainability, will be a key point of influence to maximise glass recyclability and retain the recycling logo for citizen recognition when disposing at kerbside.</p> <ul style="list-style-type: none"> • It is at this point that the 36 local authorities not collecting glass at kerbside for recycling (exemption dependent) must begin collections if they have not already. More active communications in the lead up to this data, for these authorities, is recommended to stimulate the correct disposal behaviours at precise the point where citizens will need to change their behaviour.
2027 - 2030	<ul style="list-style-type: none"> • PRN/PERN system will be active until “at least 2026 to 2027”. • Continuation of EPR data reporting requirements and quarterly invoices, including eco-modulation, and potential reviews of criteria for eco-modulation. • Proposed EU labelling that enables separate collection of each material specific fraction of packaging waste that is intended to be discarded in separate receptacles from 2028. • Proposed EU measure to ensure 90% separate collection rate target for all materials contained in packaging waste by 2029. • EU (current) glass packaging recycling target of 75% by 2030. 	<ul style="list-style-type: none"> • The systems will be up for review at this point, but not necessarily repealed. Parallel efforts on the decarbonisation of domestic reprocessing infrastructure (plus general grid decarbonisation) and the expected improvements in capture should be used to push for domestic closed-loop systems growth. • As the new ways of operating are becoming embedded, this will be an important period for review of progress for the likes of: EPR modulation and promotion of design guidelines, identification of lowest performing local authorities for glass capture to target engagement, mapping glass waste flows and advocating for policy changes for greater circularity, and reviews of potential DDRS systems.

Performance indicators & Key Next Steps

The incoming years will see a plethora of legislative changes that will impact material design decision and how citizens engage with the recycling system. In combination this will result in a significant shift in thinking at both business and citizen level. To reach the target of 90% collection and prosper the most from quality improvements navigating the following, as laid out chronologically with key legislation, will be crucial:

1. Encouragement of separate stream glass collection in tandem with advocacy for residual waste collections frequency and bin size being limited, to increase capture rates by incentivising the correct bin-behaviours (using the likes of the Welsh Collection Blueprint as an exemplar) – this will help to encourage the correct ‘bin-behaviours’ and reduce the potential contamination of glass and other dry recyclables, thereby improving the quality of glass remelt for container use, increasing circularity and closed loop capture.
 - a. Explicit case studies comprising the lowest and highest kerbside glass capture performers focused on the collection scheme types should be produced. This should include reviews of the communications on recycling services and provide recommendations on clarity.
 - b. Business cases that help set out the economics of separated collections for glass, or even other streams types that negatively affect the capture and quality of glass (to the betterment of all), should be directed towards: local authorities that do not currently collect glass at kerbside (but will be required to), the lowest performing co-mingled authorities, and high performing co-mingled authorities as a means of improving rates further. For example, the [Welsh Collections Blueprint \(2011\)](#) recommends kerbside sort and the use of alternative refuse vehicles that are cheaper to procure and operate, while being more fuel efficient – a business case with updated figures relevant to the rest of the UK could help support the economic grounds for separated collections. The Welsh Assembly pushed the sentiment of “investing to save” regarding their preferred scheme.
2. Education and communication campaigns on glass recyclability and correct disposal will be absolutely paramount during a time of collection scheme changes and DRS:
 - a. For local authorities that will experience changes in their collection scheme requirements, the promotion of viable separate streams (as above) on economic and environmental basis should be developed. These could make the case for alternative scheme design in new waste contracts, given the benefits of reduced contamination on disposal costs and lifting capture and recycling rates as demonstrated already by the highest performing authorities.

- b. For consumers on not placing glass into residual waste. A significant tonnage Redacted awaiting Packflow. is lost to landfill and energy from waste – this represents the largest opportunity for progress. Simpler Recycling will harmonise the core set of materials and introduce kerbside collections for some of the lowest performing local authorities in England. This is a representation of the shared ambition across the devolved nations to (see already [Welsh Collections Blueprint](#) and [Scottish Charter for Household Recycling](#)) – as these systems will be new it will be a key moment in setting the future of glass capture by making it policy to separate streams.
3. A key performance indicator will be whether the proportion of glass going uncaptured (i.e., disposed of in residual waste) is decreasing, with a parallel rise in glass capture and recycling rates. The above campaigns should focus on core areas, such as the recycling of all glass bottles/jars with the preference of rinsing. For formats uncertain to citizens, this should focus most specifically on perfume and aftershave bottles. Engagement with new, UK-wide digital waste tracking systems will help to pull data on understanding material flows, and where the leaks occur.
4. On DRS:
 - a. Significant levels of citizen education need to occur to overcome the misunderstanding in scope. WRAP's latest [Recycling Tracker \(Spring 2023\)](#) showed 53% of those surveyed in Wales and Scotland understood glass to be in scope, however, the same proportion also thought glass was in scope in England (with it being 52% in Northern Ireland). This may be a product of the 'generic' communications supplied as identified in local authority engagement. It is absolutely paramount that communications are aligned and instigated at the earliest possible opportunities of confirmation from each administration. Welsh Government proposes to include glass within its DRS, with Scotland potentially open to consideration of materials scope.
 - b. [Reviews of DRS for Digital DRS](#) that would enable kerbside collections and reverse-vending collection approaches, with the potential for greater citizen and retailer convenience should be performed when appropriate (e.g., after DRS rollout).



6.0

Conclusion

The information gathered shows that the collection system is a primary driver of recyclate quality and quantity – achieving higher rates of circularity depends on the effectiveness of collection.

The higher quality of collected glass will help enable more glass to be recycled in a closed loop, going back into manufacturing new glass packaging.

Redacted while awaiting publication of Packflow Refresh report.

Local authority service profiles were investigated based on performance of glass collections at kerbside. This was gathered based on the amount of glass collected per household per year. It showed that for those collecting the most glass there is a tendency towards offering more two-stream recycling services and reduced residual services (both in terms of frequency and bin capacity).

A model example of such a system is The Welsh Collections Blueprint. It prescribes a preferred service configuration for waste collections from households by using an efficient kerbside separated sort system, making use of modern compartmentalised vehicles towards achieving high quality recycling and the promotion of common advice and instruction to households, as well as reduced residual collection frequency and capacity. The blueprint was first published in 2011, with Wales now achieving some of the highest recycling rates in the world. For glass disposed at home in Wales, 92% is placed in the recycling box and only 8% in the residual bin. For Welsh authorities still operating a co-mingled service the average rate of non-target material capture was over 3x that of those operating separated services.

The obvious demarcation between receptacles for different materials provides a clearer indication of correct recycling behaviours and enables improved communications to the householder when non-target materials are placed in the incorrect receptacle. The separate collection of glass is a key enabler to improving final cullet quality for closed loop recycling and avoiding contamination.

Despite the inherent recyclability of glass most local authorities have not undertaken any targeted campaigns on glass recycling, with quality of communications overall being variable. Engagement with businesses also showed that most believe glass recycling behaviours are already embedded in the UK, with further change being slight compared to improvements in collection and sorting processes themselves. Nevertheless, the citizen disposal decision is the deciding point – what isn't captured cannot be recycled. The ability and ease of providing feedback to householders is better facilitated when non-target material capture can be identified easily – a single co-mingled recycling collection is less conducive to feedback than a system that includes some degree of separation.

Separate collections are a key enabler to improving final cullet quality for closed loop recycling.

The plethora of incoming legislation will change the landscape of packaging and kerbside collections across the UK. It will see the introduction of Extended Producer Responsibility, Deposit Return Schemes, a harmonised set of materials for collection in England, and new digital waste tracking measures. However, citizen knowledge on these changes is lacking, with over 50% of people in every UK nation believing glass to be in scope of their respective DRS scheme.

The roadmap has accordingly recommended where and when information campaigns should be sought. Particularly for those authorities not currently collecting glass at kerbside and the advocacy of separating waste streams wherever possible – to the quality benefit of all recycling waste. Key recommendations to improve capture quantity and quality include:

- Moves away from material co-mingling and towards, at minimum, two-stream recycling collection approaches – to facilitate kerbside sort approaches to improve quality, and ease feedback on disposal behaviour for local authorities.
- Reductions in the frequency and capacity of residual waste collections – towards incentivising recycling and social norms.
- Communications campaigns that target glass items with the highest rates of missed capture (e.g., perfume/aftershave bottles) – to increase capture rates.
- Targeted campaigns at local authorities in England that currently offer no kerbside glass collections – to improve citizen knowledge from the outset once Simpler Recycling is in effect.
- Campaigns that clearly outline the scope of DRS across nations – to improve citizen knowledge and correct disposal behaviours.
- Increased business engagement on design for recyclability guidance – to ensure that glass is fit for high quality recycling and adequately labelled.

Separate collections are a key enabler to improving final cullet quality for closed loop recycling and avoiding contamination, but for maximal effectiveness must be combined with consistent, common, and simple messaging to improve citizen knowledge.



7.0

Appendices

Includes a breakdown of the service profiles offered by the lowest and highest performing Local Authorities for glass collections per household.

Information is provided on property type and number served, the scheme type, frequency and containers used for dry recycling and residual collections.

Appendix 1: Local Authority Service Profiles

Table 19 details the services profiles for the local authorities collecting the lowest overall volume of glass per house per year (kg/hh/year), as identified in of section [Local Authorities](#).

Table 19: Collection profile of the lowest performing authorities (2021/22) per rurality grouping, by kg of glass collected per household per year.

No glass collection
Separate glass collection

LA Name	Scheme name	Households (HHs)	Scheme type	Dry Recycling			Residual		Notes
				Container	Materials accepted	Frequency	Container	Frequency	
Armagh City, Banbridge & Craigavon BC	Armagh - all properties	23,000	Co-mingled	240l wheelie bin	Glass, mixed cans, aerosols, foil, plastic bottles, plastic film and other plastics, rigid mixed plastics, paper, batteries, textiles, cartons.	Fortnightly	240l wheelie bin	Fortnightly	
	Banbridge - all properties	20,000	Co-mingled	120l wheelie bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, batteries, textiles, cartons, small WEEE.	Fortnightly			
	Craigavon - all properties	40,000	Co-mingled	120l wheelie bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, batteries, textiles, cartons, small WEEE.	Fortnightly			1000 HHs on weekly residual.

LA Name	Scheme name	Households (HHs)	Scheme type	Dry Recycling			Residual		Notes
				Container	Materials accepted	Frequency	Container	Frequency	
Belfast City Council	Box recycling scheme (including 8000 HHs on stacked boxes on a trolley)	63,000	Multi-stream	35 to 60L box	Mixed cans, aerosols, foil, plastic bottles, rigid mixed plastic, cartons.	Weekly	240l wheelie bin	Fortnightly	
				35 to 60L box	Cardboard, paper	Weekly			
				35 to 60L box	Glass	Weekly			
	Wheeled bin and box	22,000	Two-stream	240l wheelie bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.	Fortnightly			
				35 to 60L box	Glass	Fortnightly			
Wheeled bin	64,000	Co-mingled	240l wheelie bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.	Fortnightly				
Camden LB	Estates	36,000	Co-mingled	360l communal wheeled bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, plastic film and other plastics, rigid mixed plastic, paper, cartons.	Weekly	Up to 1280l communal wheeled bin	More than weekly (58,454 hhs)	
	Kerbside properties	66,000	Co-mingled	Reuseable sack/ box/ 240l wheelie bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, plastic film and other plastics, rigid mixed plastic, paper, cartons.	Weekly	240l wheelie bin 120l wheelie bin	Fortnightly (28,355 HHs) Weekly (37586 HHs)	Some residents provide their own sacks instead of using a bin.

LA Name	Scheme name	Households (HHs)	Scheme type	Dry Recycling			Residual		
				Container	Materials accepted	Frequency	Container	Frequency	Notes
	Flats above shops	4,900	Co-mingled	Non-reuseable sack	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, plastic film and other plastics, rigid mixed plastic, paper, cartons.	More than weekly	Orange non-reusable sack	More than weekly	
Dartford BC	Flats	9,000	Two-stream	240l wheelie bin	Glass	Fortnightly	Up to 1100l	Weekly	
			Two-stream	Up to 1100l communal wheeled bin.	Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.				
	Kerbside properties	40,000	Two-stream	180l wheelie bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.	Fortnightly	180l wheelie bin	Weekly	500 on non-reuseable sacks.
			Two-stream	35 to 60L box	Glass				
Lisburn & Castlereagh City Council	Box recycling scheme	19,000	Multi-stream	35 to 60L box	Mixed cans, aerosols, foil, plastic bottles, rigid mixed plastic, cartons.	Weekly	240l wheelie bin	Fortnightly	
				35 to 60L box	Glass				
				35 to 60L box	Paper and cardboard				
	Recycling bin scheme	42,000	Co-mingled	240l wheelie bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.	Fortnightly			
	Communal properties	16,000	Two-stream	Communal wheelie bin	Glass, mixed cans, aerosols, foil, plastic bottles, rigid	Weekly (alternating)	Up to 1100l communal wheeled bin	Weekly	

LA Name	Scheme name	Households (HHs)	Scheme type	Dry Recycling			Residual		Notes
				Container	Materials accepted	Frequency	Container	Frequency	
Milton Keynes Council ⁴⁶					mixed plastic, cartons, paper and cardboard.				
				180l wheelie bin (or sack, space dependent)	Paper and cardboard				
	Recycling	110,000	Two-stream	180l wheelie bin (or sack, space dependent)	Glass, mixed cans, aerosols, foil, plastic bottles, rigid mixed plastic, cartons.	Weekly (alternating)	Non-reusable sack	Weekly	
				180l wheelie bin (or sack, space dependent)	Paper and cardboard				
Stockton-on-Tees BC	All properties	89,000	Two-stream	Reusable sack	Mixed cans, aerosols, foil, cardboard, plastic bottles, plastic film and other plastics, rigid mixed plastic, paper, cartons.	Fortnightly	240l wheelie bin	Weekly	Paper goes in a pocket on the front of the hessian sack.
				35 to 60L box	Glass (and batteries)				Some non-reusable sacks (unknown nos.)

⁴⁶ In September 2023 Milton Keynes service profile was altered – this table reflects the new service profile and does not match with the service profile operated for the glass collections performance table.

LA Name	Scheme name	Households (HHs)	Scheme type	Dry Recycling			Residual		Notes
				Container	Materials accepted	Frequency	Container	Frequency	
Tower Hamlets LB	Kerbside collections	27,000	Co-mingled	240l wheelie bin (some use non-reusable sacks)	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.	Weekly	Non-reusable sack	Weekly	
	Flats	110,000	Co-mingled	Up to 1280l communal wheeled bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.	Weekly	Up to 1100l wheeled bin	Weekly	
West Oxfordshire DC	Flats	600	Two-stream	360l communal wheeled bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.	Weekly	360l communal wheeled bin	Weekly	WEEE, batteries and textiles also collected.
				360l communal wheeled bin	Glass				
	Kerbside properties	47,000	Two-stream	240l wheelie bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.	Fortnightly	180l wheelie bin	Fortnightly	
				35 to 60L box	Glass				

Table 20 details the services profiles for the local authorities collecting the highest overall volume of glass per house per year (kg/hh/year), as identified in Table 12 of section [Local Authorities](#).

Table 20: Collection profile of the highest performing authorities (2021/22) per rurality grouping, by kg of glass collected per household per year.

No glass collection

Separate glass collection

LA Name	Scheme name	Households (HHs)	scheme type	Dry Recycling		Residual			Notes
				Container	Materials accepted	Frequency	Container	Frequency	
Tameside MBC	All properties	100,000	Two-stream	140l wheelie bin	Cardboard, paper, cartons.	3-weekly	140l wheelie bin	Fortnightly	
				180l wheelie bin	Glass, mixed cans, aerosols, foil, plastic bottles.				
		800	Two-stream	140l wheelie bin	Cardboard, paper, cartons.	Fortnightly	180l wheelie bin	Fortnightly	
				140l wheelie bin	Glass, mixed cans, aerosols, foil, plastic bottles.				
Southend-on-Sea Borough Council	Pink recycling sack	71,000	Two-stream	Non-reusable sack	Glass, mixed cans, aerosols, foil, plastic bottles, plastic film and other plastics, rigid mixed plastics, cartons.	Weekly	Non-reusable sack	Weekly	Also collects textiles and WEEE.
				35 to 60l box	Cardboard and paper				

LA Name	Scheme name	Households (HHs)	scheme type	Dry Recycling			Residual		Notes
				Container	Materials accepted	Frequency	Container	Frequency	
	Communal	14,000	Co-mingled	360l communal wheeled bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, plastic film and other plastics, rigid mixed plastics, paper, cartons.	Weekly	181 to 240l communal wheeled bin	Weekly	
Stockport MBC	Single material collection	12,000	Single-stream	Reusable sack	Cardboard and paper	Fortnightly	Non-reusable sack	Fortnightly	
	Households	110,000	Two-stream	180l wheelie bin	Glass, mixed cans, aerosols, foil, plastic bottles, cartons.	4-weekly	140l wheelie bin	Fortnightly	
				180l wheelie bin	Cardboard and paper	Fortnightly			
	Flats	10,000	Two-stream	360l communal wheeled bin	Glass, mixed cans, aerosols, foil, plastic bottles, cartons.	4-weekly	Up to 1280l communal bin	Fortnightly	
				360l communal wheeled bin	Cardboard and paper	Fortnightly			
Doncaster MBC	Domestic properties	130,000	Two-stream	140l wheelie bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, paper, small WEEE.	Fortnightly	240l wheelie bin	Fortnightly	
				35l box	Glass	Fortnightly			

LA Name	Scheme name	Households (HHs)	scheme type	Dry Recycling			Residual		Notes
				Container	Materials accepted	Frequency	Container	Frequency	
	Flats	10,000	Two-stream	Up to 1100l communal wheeled bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, paper, small WEEE.	Weekly	Up to 1100l communal bin	Fortnightly	Some flats have boxes, and some have weekly residual collection too.
				240l wheelie bin	Glass	Weekly			
Bury MBC	All properties	84,000	Two-stream	240l wheelie bin	Cardboard, paper, cartons.	3-weekly	240l wheelie bin	3-weekly	Some flats have 360l for residual.
				240l wheelie bin	Glass, mixed cans, aerosols, foil, plastic bottles.	3-weekly			
Three Rivers District Council	All properties	30,000	Co-mingled	120l wheelie bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, plastic film and other plastics, rigid mixed plastics, paper, cartons.	Weekly	140l wheelie bin	Fortnightly	
		8,500	Co-mingled	360l communal wheeled bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, paper, cartons.	Fortnightly	Up to 1100l communal bin	Fortnightly	
Durham County	Recycling fortnightly DMR vehicle	3,000	Co-mingled	Up to 1100l communal wheeled bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed	Fortnightly	Up to 1100l communal bin	Weekly	

LA Name	Scheme name	Households (HHs)	scheme type	Dry Recycling			Residual		Notes
				Container	Materials accepted	Frequency	Container	Frequency	
		1,000	Co-mingled	Reusable sack	plastic, paper, cartons. Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.		Non-reusable sack	Weekly	
				240l wheelie bin	Mixed cans, aerosols, foil, cardboard, plastic bottles, rigid mixed plastic, paper, cartons.		240l wheelie bin	Fortnightly	
	35 to 60l box	Glass							
Chorley Borough Council	All properties	52,000	Two-stream	240l wheelie bin	Cardboard and paper	4-weekly	240l wheelie bin (52441 hhlds)	Fortnightly	Also 940 HHs on 1100l communal wheeled bin for residual and 300 on non-reusable sack for residual.
				240l wheelie bin	Glass, mixed cans, aerosols, foil, plastic bottles, plastic film and other plastics, rigid mixed plastics.	Fortnightly			

LA Name	Scheme name	Households (HHs)	scheme type	Dry Recycling			Residual		Notes
				Container	Materials accepted	Frequency	Container	Frequency	
Buckinghamshire Council	Aylesbury area	72,000	Co-mingled	240l wheelie bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, paper, cartons.	Fortnightly	180l wheelie bin	Fortnightly	
	Aylesbury communal	8,000	Co-mingled	181 to 240l communal wheeled bin	Glass, mixed cans, aerosols, foil, cardboard, paper, cartons.	Fortnightly			
	Chiltern area	38,000	Two-stream	35 to 60l box	Paper and cardboard	Fortnightly	120l wheelie bin	Fortnightly	Also collect textiles and batteries.
				120l wheelie bin	Glass, mixed cans, foil, plastic bottles, cartons.	Fortnightly			
	Chiltern communal	3,800	Two-stream	Up to 1100l communal wheeled bin	Paper and cardboard	Fortnightly			
				Up to 1100l communal wheeled bin	Glass, mixed cans, aerosols, foil, plastic bottles, rigid mixed plastic, cartons.	Fortnightly			
	South Bucks area	26,000	Two-stream	35 to 60l box	Cardboard and paper	Fortnightly	120l wheelie bin	Fortnightly	Also collect textiles, batteries and WEEE.
				120l wheelie bin	Glass, mixed cans, aerosols, foil, plastic bottles, rigid mixed plastic, cartons.	Fortnightly			

LA Name	Scheme name	Households (HHs)	scheme type	Dry Recycling			Residual		Notes
				Container	Materials accepted	Frequency	Container	Frequency	
	South Bucks communal	4,500	Co-mingled	Up to 1100l communal wheeled bin	Glass, mixed cans, aerosols, foil, cardboard, plastic bottles, plastic film and other plastics, rigid mixed plastics, paper, cartons.	Fortnightly	Non-reusable sack	Fortnightly	
	Wycombe area	60,000	Two-stream	35 to 60l box	Cardboard and paper	Fortnightly	180l wheelie bin	Fortnightly	Also collects batteries and textiles.
				240l wheelie bin	Glass, mixed cans, aerosols, foil, plastic bottles, cartons.	Fortnightly			
	Wycombe communal	12,000	Two-stream	181 to 240l communal wheeled bin	Cardboard and paper	Fortnightly	181 to 240l communal wheeled bin	Fortnightly	
				181 to 240l communal wheeled bin	Glass, mixed cans, aerosols, foil, plastic bottles, cartons.	Fortnightly			



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