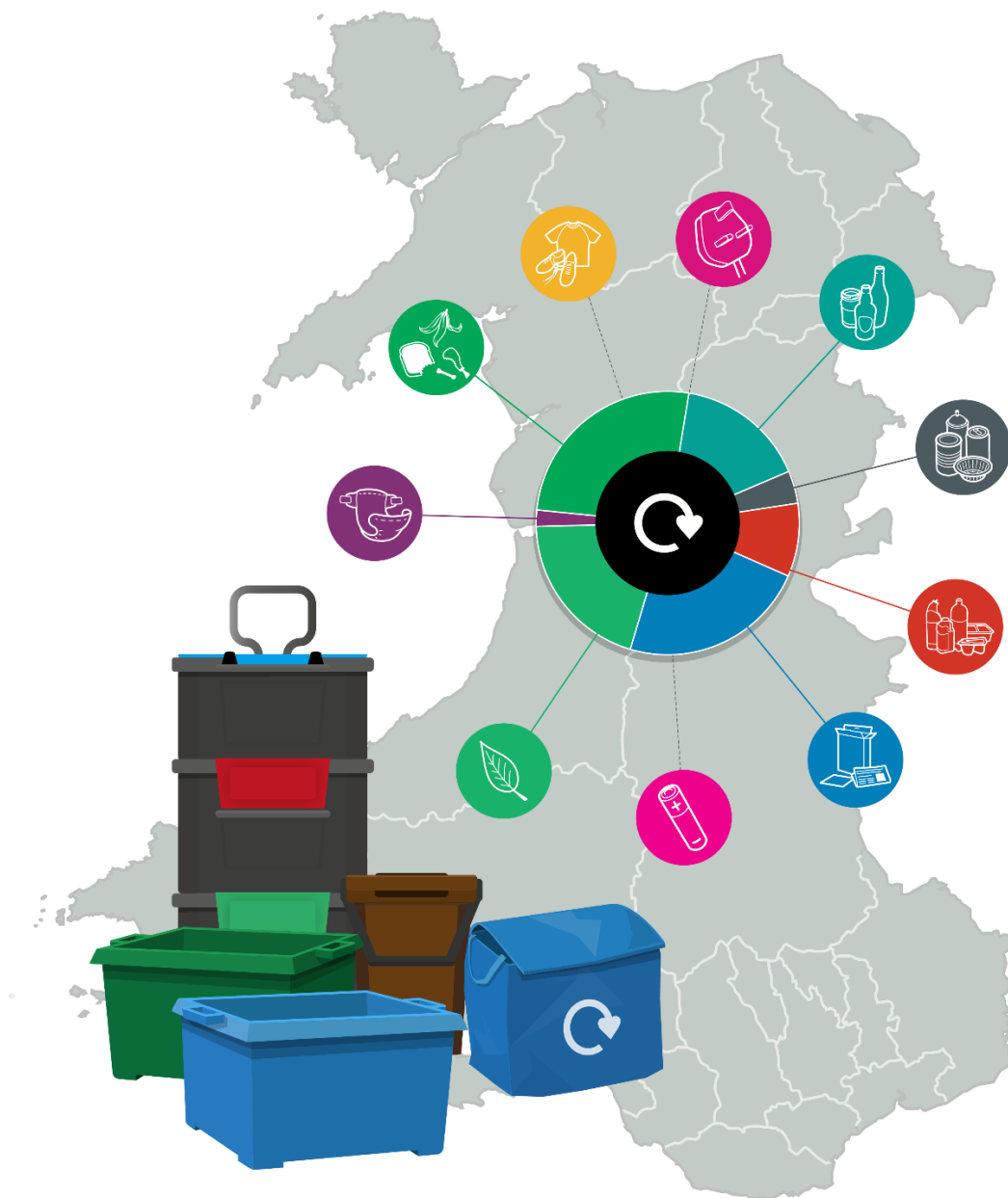


WELSH GOVERNMENT COLLECTIONS BLUEPRINT 2025



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1 Introduction

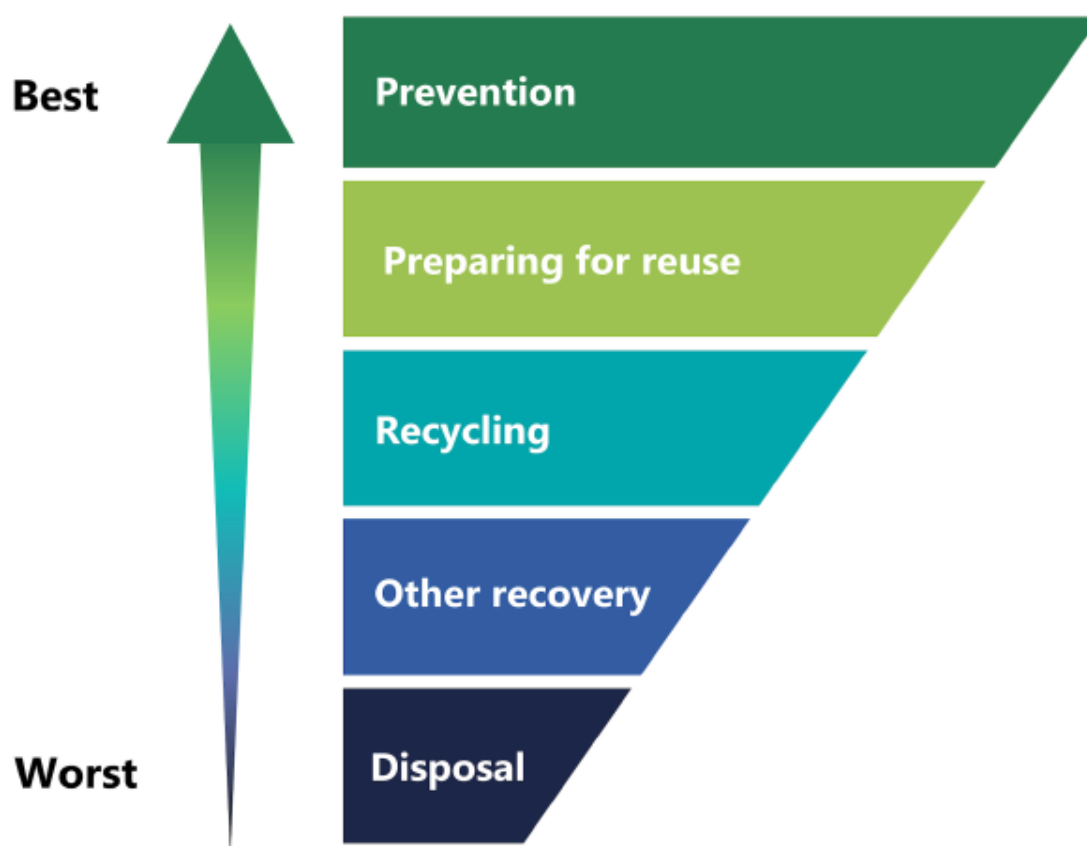
Welsh Government's *Collections Blueprint* outlines the recommended approach to collecting resources for preparing for reuse, recycling and composting (including Anaerobic Digestion) and how to manage any waste that is left over, to provide the best overall sustainable outcomes in accordance with the requirements of the *Well-being of Future Generations (Wales) Act 2015*ⁱ. The *Collections Blueprint* applies to all resources and wastes collected by or on behalf of local authorities.

Welsh Government published the original *Collections Blueprint* as part of the Municipal Sector Plan in March 2011ⁱⁱ. This *Collections Blueprint 2025* has been updated to reflect current practice and the change in approaches to collection and sorting since 2011, as well as account for evidence of technical developments. If everyone on the planet had the same pattern of resource consumption and waste production as the average person in Wales in 2010, there would be a requirement for three planets' worth of resources. Since then, Wales has made progress on waste prevention, sustainable consumption, production and the waste management targets outlined in *Towards Zero Waste*ⁱⁱⁱ. In 2023 the ecological footprint of waste in Wales was reduced to the equivalent of just over two planets^{iv}. It is the policy of Welsh Ministers to move Wales to a circular economy, a position where it consumes resources and manages wastes in a way consistent with 'one planet living'. To realise this means that efforts to achieve resource efficiency and minimise waste need to be as close to optimal as practicable.

The statutory Waste Hierarchy prioritises waste prevention and management options according to what is best for the environment. The Waste Hierarchy is a core principle of waste management in Wales and is set out in Regulation 12 of the *Waste (England and Wales) Regulations 2011 (as amended 2020)*^v. It gives top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for reuse, then recycling, then other recovery (e.g. as energy and heat), and last of all disposal (e.g. landfill).

The definitions of prevention, preparing for reuse, recycling, recovery, and disposal can be found in Welsh Government's statutory guidance on the Waste Hierarchy^{vi}. The Waste Hierarchy is shown in Figure 1 below.

Figure 1: The Waste Hierarchy



The move to a circular economy through the optimal management of resources must be achieved within wider economic, financial, social, and environmental contexts. There are considerable economic and social gains to be achieved through managing resources efficiently including funding the development of an economy that prioritises waste prevention, reuse and recycling. These gains however need to be achieved against a background of reduced funding for local authorities and the wider public sector.

In 2021 Welsh Government introduced a strategy to make the circular economy in Wales a reality: *Beyond Recycling*^{vii}. A circular economy keeps resources and materials in use for as long as possible and avoids all waste. This will mean continuing to move away from a linear economy which assumes a constant supply of natural resources, the production of goods and services, and the disposal of post-consumer waste. Moving to a circular economy is essential to reduce our carbon emissions and our over-exploitation of natural resources thereby helping to reverse the decline in biodiversity. Crucially it can also improve economic and social outcomes.

Welsh Government takes an evidence-based approach to policy development, consistent with its promotion of the principles of sustainable development. A list of references from this document and a bibliography including the key evidence upon which Welsh Government has based its approach to resource and waste collections and the rationale of its approach is found in Annex 3 – References and List of Evidence.

1.1 Aims

The *Collections Blueprint* aims to promote the collection of materials in ways that:

- support the move to a circular economy and living within our planet's limits;
- ensure that the local authority recycling and waste service makes its full contribution towards net zero^{viii}, not just for the waste sector's emissions, but crucially also those in other sectors, especially industry and business, and the public sector;
- promote the local circular economy to help improve economic resilience, enhance economic, social and employment opportunities, and better environmental outcomes;
- improve the effectiveness and efficiency of local authority service delivery, so that as well as delivering environmental and economic benefits, the municipal resource management is financially sustainable.

The overall approach recommended by Welsh Government is for all aspects of collection (household recycling and waste collections, reuse and recycling centres, bring sites, bulky collections, non-household recycling and waste collections, and litter collections) to be managed in an integrated way to deliver high quality resource and management services at the lowest practicable unit costs.

The *Collections Blueprint* will continue to be updated to take account of developments in technologies and legislation and is intended to help Welsh local authorities deliver services that combine financial affordability with the best environmental, economic and social outcomes.

If we are to progress towards a truly circular economy such change will need to be continuous and we should never really find ourselves in a position without a new suite of changes on the horizon. At the time of publication there are a number of important policy changes in the pipeline including the need to deliver net zero for the waste and other sectors, the Packaging Extended Producer Responsibility scheme, the Deposit Return Scheme and proposals to extend the Emissions Trading Scheme to cover the incineration of waste. As and when these policies come into effect they will cause further changes to the system outlined in the *Collections Blueprint 2025*.

It is not an instruction manual; it is intended to help Welsh local authorities deliver services that combine financial affordability with the best environmental and social outcomes.

Whilst the *Collections Blueprint* is advisory rather than a legislative requirement it is intended to set out what, in our collective experience across Wales, the best practice is in terms of delivering against Welsh Government's policy objectives for municipal recycling and waste collections.

1.2 Collections Blueprint Summary

The following table sets out the recommended waste prevention, preparing for reuse, recycling and waste service profile for local authorities in Wales – this table is only a summary and each section is covered in more detail in the main body of the document.

Table 1: Collections Blueprint Summary

Aspect	Minimum service standard
Waste prevention, reuse and repair	<ul style="list-style-type: none"> • Local authorities should promote waste prevention to residents through the provision of information on local initiatives, national guidance, and events. • Reuse shops and options for repair should be signposted by the local authority. • Services should have a repair, reuse and recycling focus.
Dry recycling	<ul style="list-style-type: none"> • Separate presentation at the kerbside under a ‘kerbside sort’ system. Materials to be collected include paper and cardboard; plastic bottles, pots, tubs and trays; metal tins, cans, aerosols, and foil; cartons and other paper-based composite products; and glass jars and bottles. • There should be a weekly kerbside collection of dry recyclables. • Check quality of dry recyclate while loading onto vehicles, ensuring lowest possible contamination through immediate rejection of non-compliant materials and immediate feedback to residents. • Three or more, preferably reusable, dry recycling containers provided per household to keep materials segregated. • Ensure each household gets enough capacity for each stream. • Consider equality, diversity and inclusion (EDI) to ensure the service meets the needs of all communities and residents.
Food waste	<ul style="list-style-type: none"> • Food waste prevention activities should be included in regular communications. • Weekly collection of separate food waste. • Internal kitchen caddies and lockable kerbside collection containers should be provided. • Food waste liners provided to residents for free.

Aspect	Minimum service standard
Collection vehicles	<ul style="list-style-type: none"> • Focus on most carbon efficient way to collect and achieve outcomes (high-quality recycle achieved through checking/rejecting/sorting material at kerbside rather than by set vehicle type). • Single pass vehicles recommended way to achieve this for dry recycling and food waste. • Local authorities' procurement and fleet replacement should be in line with the commitment for the public sector to be Net Zero by 2030^x, with the default being Ultra Low Emission Vehicles (ULEV) for new vehicles.
Residual waste	<ul style="list-style-type: none"> • With increased recycling and less material going into disposal, significantly less residual capacity is needed. • Collection once every 3 to 4 weeks is sufficient and more frequent collection should be avoided so that it does not undermine the effectiveness of the recycling service provided. • Residual waste capacity equivalent to 60L, or less, per week is sufficient for the standard service. • Consider onboard weighing for data collection for residual collections. • Consider enforcement approach including student landlord duties. • Residual waste policies should be actively enforced. • Ensure that there are clear policies in place for households that require additional capacity.
AHPs	<ul style="list-style-type: none"> • Should signpost to reusable nappy options and nappy libraries and consider supporting these activities. • Provision of separate AHP collection should be provided.
Garden waste	<ul style="list-style-type: none"> • Promotion of, and support for, home composting/treatment for garden waste. • Charging for green waste collection can be applied to encourage home composting (as allowed under the Controlled Waste Regulations (2012)^x). • Collections should be regular, including reduced winter frequency where appropriate.
Bulky collections	<ul style="list-style-type: none"> • Main priority should be to manage bulky waste for reuse and recycling with disposal a last resort in accordance with the waste hierarchy. • There should be no direct delivery of bulky collections to disposal facilities.

Aspect	Minimum service standard
	<ul style="list-style-type: none"> Consider equality for the needs of residents in low-income households and those with no access to vehicles. Reuse partnerships with appropriate organisations should be considered.
Flats	<ul style="list-style-type: none"> Service for properties with communal collections should be as similar to the main kerbside service as feasible. The aim should be for collection of the full range of kerbside materials. Weekly collection frequency for recycling and food waste. Residual capacity limited in line with the kerbside service. Landlords' duties need to be considered in the flats service, including the provision of well-maintained and secure bin stores.
Reuse and recycling centres (RRCs)	<ul style="list-style-type: none"> Achieve a level of at least 85% recycling and reuse at all Reuse and Recycling Centres (RRCs). Include appropriate policies to control and minimise unsorted residual waste accepted on site. Make it easier for all residents to access facilities to cut down travel CO₂ emissions and encourage more recycling. Aim to share with neighbouring authorities where appropriate. As a minimum, sites should accept and have facilities to receive and store separately: glass, metals, paper, cardboard, wood, green/garden waste, aggregate, soils, plastic packaging, hard plastic, textiles, mattresses, carpets, mineral oil, vegetable oil, and items that can be reused. Provision of at least one RRC that accepts hazardous wastes e.g. WEEE, fluorescent light bulbs/tubes, paints/ solvents/ other hazardous household waste, bonded asbestos. Consider EDI in terms of accessibility, car ownership & van bans. Consider reuse shops or drop off points at RRCs and in town centres as part of a wider reuse network.
Non-domestic waste	<ul style="list-style-type: none"> Trade waste services must be provided in line with Workplace Recycling Regulations^{xi}. Acceptance of certain trade recycling materials at RRCs can be considered, ensuring the option is fully costed. (This does not replace the duty to collect under the Workplace Recycling Regulations.)

Aspect	Minimum service standard
Equality, Diversity & Inclusion (EDI)	<ul style="list-style-type: none"> • Consideration must be given to how the services affect people with protected characteristics and ensure no group is unfairly disadvantaged or excluded from accessing the service. • Extra capacity and assisted collections should be provided where appropriate and be reviewed periodically
Communications	<ul style="list-style-type: none"> • Communications to residents should be regular. • A dedicated communication resource with an annual budget should be established. • Education opportunities via schools and colleges should be exploited where possible. • National campaign assets should be used where appropriate to ensure information reinforces the standardised messaging throughout the whole of Wales. • Feedback on performance should be provided to residents.
Managing and maintaining a service	<ul style="list-style-type: none"> • Service needs to be adequately managed and monitored. • Appropriate policies should be in place, and these should be actively enforced. • Processes and procedures should be in place to support the safe and effective delivery of the service. • Vehicles and equipment must be well maintained and regularly checked with records kept. • Vehicles must be served by appropriately designed and operated depots, to carry out a minimum of post collection sorting and to prepare materials for sale and onward transport to reprocessors. • Performance of the service should be monitored. • Plans should be in place for the decarbonisation of the service in line with the commitment to a Net Zero Public Sector by 2030.

1.3 The Welsh journey

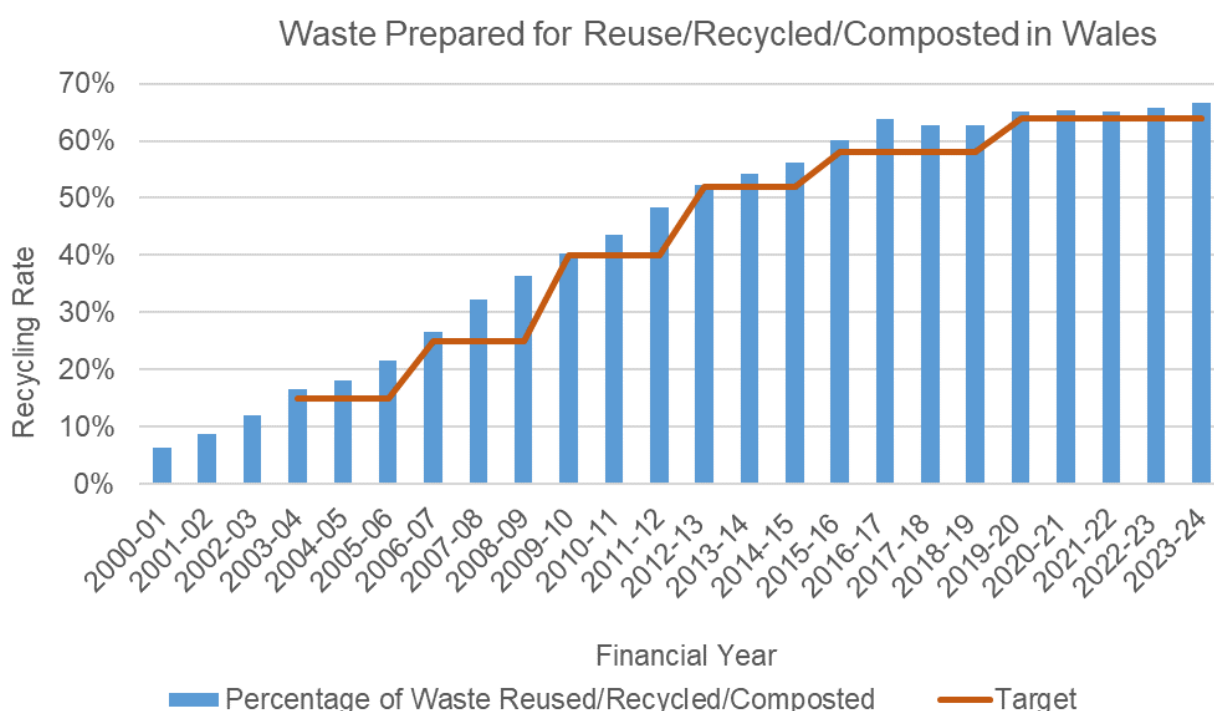
In the early 2000s the amount of household waste collected by local authorities in Wales was steadily increasing. The amount stabilised in the mid-2000s and generally decreased thereafter. In 2023-24 Welsh local authorities collected 1.4M tonnes of Municipal Solid Waste, down from a peak of 1.8M tonnes in 2004-05.

The data now shows that an increasing proportion of waste managed by local authorities in Wales is being sent for preparing for reuse, recycling or composting. Prior to devolution in 1999, Wales was one of the world’s worst recyclers, recycling around 5% of municipal waste. This has risen to a rate of 66.6% in 2023-2024, with Welsh Government having set statutory targets for local authorities to recycle a minimum of 64% of waste by 2019-20, and 70% of waste by 2024-25.

When it comes to recycling performance, Wales is first in the UK, and now second in the world, behind only Austria^{xii}.

Figure 2 below shows the increasing Welsh National municipal waste recycling rate alongside the statutory targets between 2000 and 2024.

Figure 2: Local Authority collected municipal Waste Prepared for Reuse/Recycled/Composted in Wales¹ (2000-2024)



¹ From 1 April 2012, there were changes in definitions relating to local authority municipal waste generated and the method of calculating the percentage prepared for reuse, recycling or composting in Wales. The majority of information prior to 2012-13 relates to waste that was reported as collected for preparation for reuse, recycling & composting. Whereas from 2012-13 it relates to waste that was reported as sent for preparation for reuse, recycling & composting.

1.4 Recycling & Waste collections in Wales

Since the publication of the *Collections Blueprint* in March 2011, most local authorities in Wales have adopted the approach.

As of mid-2024, all 22 Welsh local authorities:

- collect a core set of dry recycling materials from residents at the kerbside;
- provide separate food waste collections for their residents, covering 99.8% of households in Wales;
- provide free food waste liners to their residents;
- offer opportunities for residents to deposit reusable items at least at one of their RRCs;
- have a least one RRC accepting a range of hazardous household wastes.

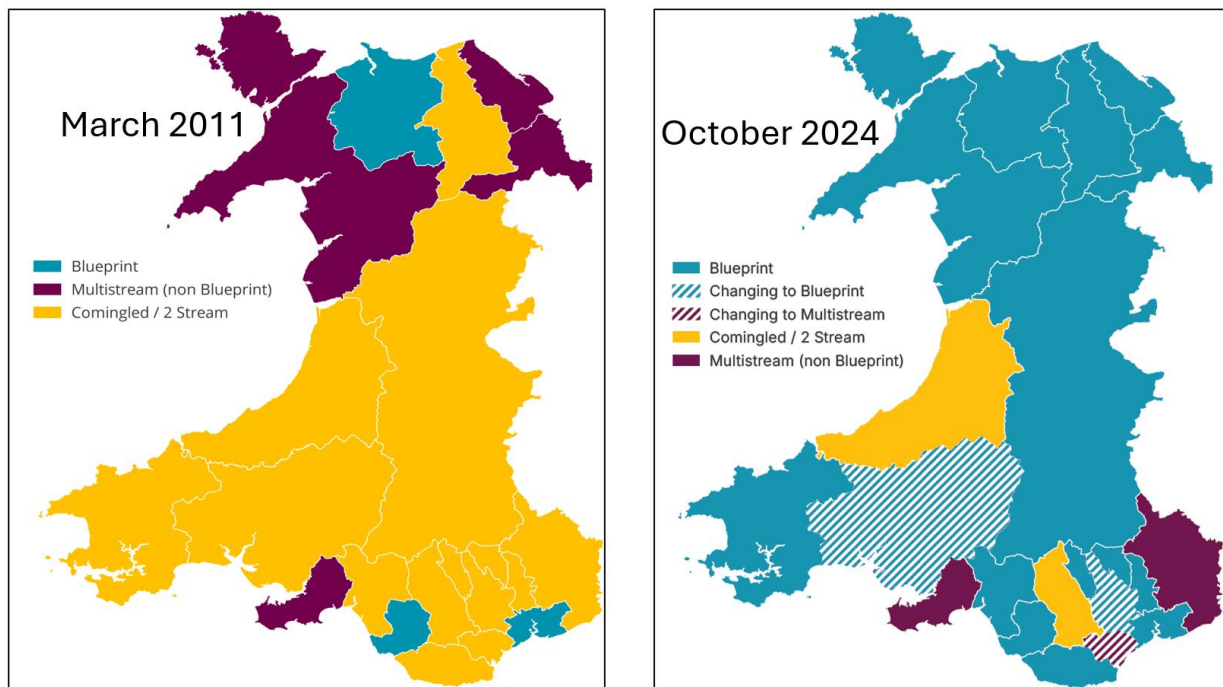
As of mid-2024, of the 22 Welsh local authorities:

- 15 deliver a single pass multi-stream kerbside collection in line with the *Collections Blueprint*;
- 2 are in the process of changing to a single pass multi-stream kerbside collection in line with the *Collections Blueprint*;
- 2 deliver a multi-stream service that does not include a single pass²;
- 1 is in the process of changing from co-mingled to multi-stream;
- 2 operate a co-mingled service.

The scale of the change between 2010 and 2024 is shown in Figure 3.

² Materials are collected separately using multiple vehicles, rather than one vehicle in a single trip.

Figure 3: Kerbside Collection Method for Household Recycling in Wales per Local Authority – 2010/11 & 2023/24 Financial Years



Source: WRAP Cymru

The increasing consistency of approach to collections across Wales brings with it benefits, including the sharing of best practice, opportunities for joint procurement and shared acquisition of assets, the joint delivery of services across existing local authority boundaries and ability to promote consistent nationwide messages. This is further enhanced by the alignment with the regulations now in place for Workplace Recycling in Wales, which has been informed by the Blueprint approach.

The following sections outline Welsh Government’s recommended approach to the collection of resources and wastes – the *Collections Blueprint*.

2 Waste Prevention, Reuse and Repair

A service should include the provision of practical measures to promote waste prevention, including reuse and repair, to complement the recycling and waste collection service.

Waste prevention activities are complementary to the collection service and help further reduce local authority collection costs, as well as delivering key environmental and social benefits. They can also help citizens save money.

Building on Wales' success in mainstreaming recycling, to move further up the statutory waste hierarchy and deliver in line with Welsh Government's *Beyond Recycling* strategy, consideration must also be given to the infrastructure and support available for repair and reuse.

The minimum standard for Welsh local authorities to encourage waste prevention, reuse and repair is:

- clear information should be included on local authority websites of steps that can be taken to reduce waste;
- local authorities should promote waste prevention to residents through the provision of information on local initiatives, national guidance, and through events;
- all local authority areas should have a network of reuse points to enable citizens to donate items for reuse or repair, taking accessibility into consideration;
- local authorities should signpost to repair and reuse organisations and activities in their area;
- at least one reuse and repair hub at an RRC or in a town centre.

Encouraging waste prevention, reuse and repair can be delivered in the following ways:

- the delivery of a reuse network which can include drop off points or shops at RRCs, reuse and repair shops in town centres and/or partnerships with third sector organisations to make the service more accessible;
- bulky waste collection services should be designed and managed as far as possible to ensure items collected are reused or repaired;
- examples of promoting waste prevention include waste prevention campaigns such as Love Food Hate Waste which aim to reduce food waste;
- providing reusable nappy vouchers or nappy libraries can help reduce the use of single-use nappies. Reusable incontinence pads and wet wipes are also available;
- support for period dignity and the promotion of reusable period products;

- home composting of garden waste can be promoted through the sale of subsidised home composting bins;
- community paint reuse points can be provided at RRCs;
- local authorities can provide support for community reuse activities e.g. repair cafes, libraries of things, remanufacturing and remaker spaces, scrapstores, charity retail, car boot sales, nearly new children's clothing sales, etc. on local authority land;
- local communities can be supported to set up community sell, swap and share groups on social media – potentially via town and community councils or schools which can be important in both saving households money and improving access to activities for those from deprived communities e.g. through uniform swaps, bike exchange projects, pop-up events, etc.;
- promotion of zero waste refill stores to reduce use of plastic packaging and encourage use of refillable containers for food/toiletries shopping;
- water refill points can be encouraged and signposted to help reduce the use of single-use bottles. This should include at appropriate locations on the local authority's own estate.

3 Kerbside Collections from Domestic Properties

3.1 Dry recycling and food waste

3.1.1 Materials collected

The recyclable materials recommended to be collected in separate streams include, as a minimum:

- food wastes;
- paper & card (either combined or separate);
- glass bottles and jars;
- metal tins and cans, aerosols and foil; plastic bottles pots, tubs and trays; and cartons and similar.

The following additional materials can also be included if appropriate containment is available to keep them dry and preserve their quality, and appropriate reprocessors can be found:

- textiles;
- small waste electrical and electronic equipment (sWEEE) including vapes;
- batteries;

Textiles and sWEEE collections should prioritise preparation for reuse over recycling wherever possible to maximise benefits in line with the waste hierarchy.

Collecting batteries, sWEEE and vapes separately could help reduce the risk of fires when items containing lithium-ion batteries are placed in residual waste, or in the wrong recycling stream.

The planned requirement under the packaging Extended Producer Responsibility (pEPR) to collect flexible plastic films from the kerbside from 2027 onwards should also be taken into consideration.

A kerbside sort approach enables collectors to reject incorrect items at the kerb, and feed back to residents on which items should be placed out for collection and which items are contamination, encouraging high quality recycling. A consistent approach to collections in Wales also reduces potential resident confusion and kerbside sort produces reliable high-quality feedstock for Welsh reprocessors.

Further details on which types of material (sub-fractions) should be included within each recyclable waste stream are found in [Annex 2 – Sub-fractions that comprise each waste stream](#).

3.1.2 Containers

There is no minimum or recommended capacity for dry recycling provision in Wales. Local authorities should ensure sufficient capacity is available for households to contain all the recyclable items they produce. Local authorities in Wales typically provide their residents with 150L-250L of dry recycling capacity each week, as well as 23L of capacity for weekly food waste.

It is for local authorities to determine the most suitable containers for properties in their areas. It is possible that a mix of containers will be used in different areas of the same local authority, depending upon housing types.

A choice of containers is available for kerbside sort recycling services, including boxes, stackable boxes, reusable hessian sacks and single use plastic sacks. Each has advantages and disadvantages but maintaining material quality is paramount. For example, containers used for paper and card need to protect the materials from the weather. Lids or nets are often used to ensure recycling material remains in the containers and avoid contributing to litter, particularly in areas prone to windy conditions such as coastal areas. Some local authorities use weighted reusable bags for materials for the latter reason.

The use of single use plastic bags to contain dry recycling should however be avoided where possible, in line with Welsh Government's commitment^{xiii} to phase out unnecessary single-use plastic items in Wales as a key climate action.

Procurement of containers should consider the Beyond Recycling commitments to making the service as resource efficient as possible and its role in material demand. They should be made from recycled material or at least have a high recycled content. The NPS Waste Bags, Recycling Products & Aprons Framework^{xiv} is recommended. This Framework offers customers a quick, simple and competitive route to a wide range of waste collection products and aprons. The Framework offers access to pre-approved firms that have been rigorously assessed on the quality of their products, and the service they provide.

There have been changes in good practice since 2011. Local authorities undertake less sorting of different waste material sub-fractions at the kerbside. This has developed through experience and the operation of collections is now more streamlined and efficient. Very few authorities hand sort mixed boxed dry recycle at the kerbside. Some materials can be collected together if separation can be achieved effectively and efficiently with no loss of quality. For example, most local authorities now collect rigid plastic packaging and metals together. Metal packaging, rigid plastic packaging and cartons can be co-collected and separated post-collection in a sorting station. However, it is important that the loading of the different dry recycle material onto vehicles ensures the lowest possible contamination through immediate rejection of non-compliant materials and immediate feedback to residents.

The *Collections Blueprint* previously recommended that dry recycling should be collected using two or more boxes. With most Welsh local authorities now providing at least three different containers to each household, this recommendation is being updated to three or more containers to facilitate the collection of the following material streams separately: paper and card, glass, and mixed plastic/metal. These materials align with the separation prescribed within regulations that apply to non-domestic properties in Wales, as discussed in Section 5.

Furthermore, if additional materials are also collected, additional containers such as reusable battery bags may also be provided. This approach ensures materials are kept separate and clean to deliver both high quality and higher income from the materials collected.

Food waste should be collected separately and weekly, and not mixed with green waste. It is recommended that local authorities provide kitchen caddies to residents for storing food waste indoors and a larger caddy should be used to store food waste at the kerbside before collection. Food waste should be sent to anaerobic digestion (AD) to generate renewable energy in the form of biomethane. Where the outputs meet a relevant end of waste framework, including the supporting certifications and market use, then the process can produce an organic fertiliser as well as biomethane.

Local authorities should provide free kitchen caddy liners to residents. Plastic liners can only be considered for AD processes that have agreed to their inclusion and can ensure that the digestate produced by the AD process meets the appropriate standard (BSI PAS 110).

Food waste collection services should not target materials such as kitchen roll, paper napkins, or commercially compostable product packaging unless the operator of the anaerobic digestion facility is able to accept it. Residents who do home composting can put kitchen roll and paper napkins into their home composting bin.

3.1.3 Vehicles

The weekly collection of food waste and dry recyclables using a kerbside sort approach with a single pass resource recovery vehicle (RRV) is recommended.

Welsh local authorities' focus should be on collecting materials in the most carbon efficient way and on collecting high quality recyclate. Many Welsh local authorities collect food waste and dry recyclables at the same time using a single pass RRV. RRVs are relatively lightweight and fuel efficient and have lower CO₂ emissions than traditional refuse collection vehicles (RCVs).

RRVs are produced in different sizes and can be used in almost all situations. They also allow additional materials to be collected – for example textiles, small WEEE and batteries.

Kerbside sort vehicles such as RRVs can take longer to travel down streets and roads when they are collecting compared to vehicles such as RCVs collecting co-mingled materials. The effects of this can be mitigated through careful route planning and operational management^{xv}.

Following careful collection of materials, the RRVs must be served by appropriately designed and operated depots, to carry out any required post collection sorting and to prepare materials for sale and onward transport to reprocessors. Research has shown that as well as being of higher quality due to reduced contamination, materials collected via kerbside sort also tend to find markets closer to where they are collected than the same materials collected via co-mingling^{xvi}. Furthermore, more materials collected via kerbside sort are destined for closed loop recycling than is the case with materials collected via co-mingling.

Other vehicle approaches which achieve *Collections Blueprint* outcomes and are demonstrably more carbon efficient can be considered.

Ultra-low emission versions of collection vehicles, including RRVs and RCVs, have become available over the last few years, further reducing emissions. Local authorities should have a plan for the transition of all their fleet in delivering against the 2030 net zero target. This in practice now means the default being Ultra-Low

Emission Vehicles (ULEV) for any new vehicles. Work to decarbonise the recycling and waste collection service, including through the roll out of ULEV is ongoing across Wales. The installation of effective renewable energy generation infrastructure at waste and recycling locations should also be considered.

3.2 Residual waste

With more and more material being collected from households as recycling, it means significantly less material needs to go into disposal, so consequently significantly less residual container capacity is needed. If residual capacity is maintained at a level greater than that which is required, it can lead to the unintended consequence of inhibiting the uptake of recycling services.

In 2011, the *Collections Blueprint*, therefore, set out that to increase the amount of material separated for recycling and to reduce emissions, residual waste container capacity or collection frequency should be reduced -this continues to be the case in the *2025 Collections Blueprint*.

Reduced residual waste capacity can be achieved in three ways:

- Reduce the number of residual waste containers collected – principally refuse sacks;
- Reduce the size of residual waste containers used – principally wheeled bins;
- Reduce the frequency of collection of residual wastes.

Lessons learned from the introduction of restrictions to residual waste capacity or frequency highlight that it is better to do so alongside the implementation of a comprehensive recycling service rather than waiting until afterward. A change in residual collections should also be supported by clear communications highlighting the relationship to the recycling collections and accompanied by appropriate education and subsequent enforcement to ensure the desired outcomes are achieved.

With increased recycling and less material going into disposal, significantly less residual capacity is needed. The majority of local authorities have already taken steps to restrict the amount of residual waste collected. As of mid-2024, most Welsh local authorities provide a 3-weekly or 4-weekly kerbside residual waste collection service to their residents. In addition, some authorities who have retained fortnightly collections have restricted the volume of residual waste collected by introducing smaller wheeled bins, or by limiting the number of sacks of waste that can be presented.

The use of either wheeled bins or sacks for the storage of residual wastes is a matter for determination by individual local authorities, according to their needs. There is some evidence suggesting that the use of sacks may restrict the weight of residual waste put out, and so increase the recycling rate, with the highest performing local authorities for food waste recycling all having sack collections for residual waste.

Whilst Welsh Government does not mandate frequencies of collection of residual waste, it strongly supports measures taken by local authorities to limit residual waste collections, whether by frequency or capacity given local authorities in Wales all have a comprehensive service of recycled material collection in place. More frequent residual waste collection should be avoided so that it does not undermine the effectiveness of the recycling service provided.

Due to the different approaches to reducing residual waste capacity it is simplest to compare the different services provided by considering the volume available to – residents for use each week - weekly capacity. The average weekly capacity provided for residual waste in Wales in 2024 varied across local authorities from 40L per week to 120L per week.

The recommended residual waste service, alongside a comprehensive and robust recycling service, is:

- collecting residual waste no more often than once every 3 to 4 weeks,
- providing residual waste capacity equivalent to 60L, or less, for the standard service.

Residual waste policies should be actively enforced. Consideration should be given to households with specific needs, as discussed in Section 6.

Research^{xvii} examining residual waste collection frequency recommended that food waste and absorbent hygiene products (AHPs) should be collected separately, and that residual waste should be contained rather than loose when stored in a bin.

Local authorities should pro-actively discourage their residents from placing batteries or small WEEE containing lithium-ion batteries in the residual waste container because of the significant risk of fires.

3.2.1 Absorbent Hygiene Products (AHPs)

Waste prevention initiatives such as providing reusable nappy vouchers, or supporting nappy libraries, can help reduce the number of single-use nappies generated. Reusable incontinence pads are also available.

Separate AHP collections can help to alleviate perceived concerns regarding changes to the frequency of residual waste collection in line with the research referenced above. Along with the separate collection of food waste it not only helps to address the potential for odours from less frequently collected waste, but also brings the opportunity to potentially reclaim more material from residual waste for recycling. Providing AHP collections is also an important EDI consideration to ensure equality of service amongst protected characteristics groups including but not limited to maternity, age and disability.

It is advised that collections use purple (rather than tiger-stripe) 60 litre bags. With bags it is easy to see any contamination within the bags which is why the use of caddies alone is not recommended.

3.3 Green waste

It is recommended that local authorities promote and support home composting of green (garden) waste as this is the best environmental outcome and can help reduce the amount of waste presented by households for collection.

Collecting green waste for compliant centralised composting, where the outputs meet a relevant end of waste framework and appropriate certified standards, can produce a compost for use in certain markets and has significant benefits over disposing in the residual bin. This should not prevent or discourage home composting but provides a far better alternative to garden bonfires of green waste. In terms of the relative polluting impacts of green waste bonfires or green waste collections prior to composting, an RPS^{xviii} study for Welsh Government concluded that collections were environmentally preferable.

Collections should be regular, but can include reduced winter frequency where appropriate. It is for each local authority to assess the costs and benefits of introducing charging for green waste collections. Charging is potentially a way of reducing the amount of material collected and encouraging residents to compost at home. However, there is evidence from some areas that charging has resulted in a reduction in the quantities of green waste collected for composting and an increase in the quantities of green waste in the residual waste stream.

3.4 Bulky waste

It is recommended that bulky waste collection services be run in a way that prioritises reuse, repair and recycling (in descending priority order of importance),

with disposal a last resort. Items collected through the bulky waste collection service should not be directly delivered to a disposal location.

Residents should be encouraged to ensure any reusable items intended for reuse are kept in a reusable state before collection.

Local authorities should consider EDI and consider the needs of residents in low-income households and those with no access to a vehicle.

Bulky waste collection services can either be run in house or in partnership with a local social enterprise, private or third sector organisation.

Consideration should be given to the latest regulator guidance covering the handling and treatment of waste which may contain persistent organic pollutants (POPs)^{xix}, currently this covers upholstered domestic seating.

3.5 Flats and houses of multiple occupation (HMOs)

Across Wales, 12.5% of households were flats, maisonettes or apartments in 2021^{xx}. These properties are more prevalent in urban areas and are not evenly distributed across Wales. In 2021, 26.5% of households in Cardiff and 16.6% of households in Newport were flats, maisonettes or apartments, while in Carmarthenshire these properties only accounted for 6.9% of households^{xxi}.

There can be challenges in providing recycling services to flats as different types of architecture can present barriers for recycling. Blocks of flats may also differ in demographic and management, requiring different approaches to recycling provision and communications. This in turn impacts equity of service, and the opportunity to reach high recycling performance.

Flats often receive a communal recycling and waste service, with shared containers rather than having their own individual ones for each household. Recycling performance from properties receiving a communal collection service tends to be lower than from households receiving a regular kerbside collections service^{xxii}. Typically, residents in flats in Wales are able to recycle the main materials (paper, card, plastic, metal, glass, food) by placing them in shared bins, but the bulk collection vehicle does not have appropriate compartments to also collect additional materials such as sWEEE, batteries, textiles etc, which can be collected with a OnePass vehicle for households on a regular kerbside service. Because of this, typically those on a communal recycling service can recycle a smaller range of materials from home compared to those on a regular kerbside service.

To achieve success in increasing recycling in flats it is recommended that local authorities use a tailored and site-specific approach, usually determined via site-specific surveys and engagement with key stakeholders, such as caretakers and landlords.

Wherever feasible, buildings containing flats, and houses converted into flats, should receive the same kerbside collection service as other households.

Many of the principles of a kerbside collection service, where each individual household has their own set of recycling containers also apply to communal waste collections:

- separate dry recycling streams;
- high quality;
- separate food waste;
- weekly dry recycling and food waste collections.

The provision of clean, well-maintained bins and bin areas conveniently located with sufficient capacity and clearly displayed information is recommended for flats and is the responsibility of the landlord. With a full recycling service, less capacity is needed for residual waste, and it can be restricted either by capacity or frequency.

Appropriate containers such as reusable bags or quad bags, should be considered where communal collections are in place to help residents keep materials separate for recycling and hence have the greatest impact on recycling levels.

In new developments recycling and waste management must be considered from the start of the building design process – as required under the Building Regulations and Approved Document H – Drainage and Waste Disposal^{xxiii}. Local authorities should ensure that planning guidance is in place which sets out standards for new developments to ensure residents have appropriate space to store recycling and waste containers.

3.6 Litter and street cleansing

It is a core Welsh Government principle that citizens are able to recycle consistently at work, rest and play – and that ought to include when they dispose of material used on-the-go. Whilst the challenges of contamination are acknowledged, good signage and layout of separate recycling litter bins (for i) paper/card, ii) metal, plastic, cartons and similar, and iii) glass) can make it easier for people to recycle properly on-the-go.

It is therefore recommended that local authorities:

- Provide separate recycling litter bins for the key materials where feasible, alongside a general litter bin.
- Provide good signage to help people understand what should and should not be placed in each bin.
- Where practicable, separate out recyclable wastes from street cleaning into the separate material streams.

4 Reuse and Recycling Centres (RRCs)

The provision of a network of facilities for the deposit of reusable, repairable and recyclable goods and materials as well as residual wastes is an essential part of the recycling and waste services provided by local authorities.

4.1 Prioritising reuse, repair and recycling

In line with Welsh Government's *Beyond Recycling* strategy and the Waste Hierarchy, RRCs should encourage and prioritise reuse and repair as much as possible. This could include a reuse/repair centre or a designated area in smaller sites for reusable and repairable items to be dropped off – for onward transfer to a site that has a reuse/repair centre. Where repair or reuse is not possible, as much of the material deposited should be recycled as is feasible.

- Any reusable items should be kept segregated for reuse.
- Any repairable items should be diverted towards repair, then reuse.
- Any items which cannot be reused or repaired should be recycled.
- Non-recyclable items should be sent for recovery.
- Only non-recoverable items should be sent for disposal.

Some ways of achieving this are listed below:

- Reuse shops to give items a second life;
- Reuse drop off areas to keep reusable items segregated for reuse;
- Support from RRC staff to help with suitability and advocate for reuse;
- Repair shops and cafes to extend the lifetime of items;
- Dismantling bulky items for recycling;
- Pre-sort policies for waste entering site.

Items particularly suited for reuse include furniture, textiles and clothing, homewares, bric-a-brac, electrical items, bicycles, tools, toys, books, CDs and DVDs, wood and paint.

Partnerships with third-sector organisations are a way to achieve increased reuse. The value of engaging with third-sector organisations stems from their ability to increase reuse of items deposited at RRCs, which in turn provides social and economic benefits by creating jobs, training opportunities, and volunteer placements. There are many excellent reuse organisations taking items off site for resale, as well as on site reuse shops managed by charities or furniture reuse organisations. However, these groups may need support to deliver the standard of service required by the local authority.^{xxiv}

4.2 Location

The recommended approach is to maintain a network of RRCs that provides good access to residents across the county.

The level of RRC provision depends upon several factors that will be specific to each local authority.

Local authorities need to consider travel distances and times for residents in determining site provision. Additionally, consideration should be given to accessibility of RRC sites for households with no access to a vehicle, and whether hired vehicles are authorised on site. Local authorities should look at the opportunity for town centre sites which can support the drop-off of items for reuse, as well as wider benefits such as footfall into the town centre.

Where appropriate, Welsh Government encourages local authorities to share RRCs located close to a border with a neighbouring authority to provide choice and accessibility to as many citizens as possible.

4.3 Materials collected

A wide range of materials should be collected at RRCs.

This should include paper, card, glass, metals (ferrous and non-ferrous), rigid plastic packaging, non-packaging rigid plastics, flexible plastic film, green waste, textiles, waste electrical and electronic equipment (WEEE, including vapes), rubble, ceramics, gypsum, plasterboard, wood, paint cans, polystyrene, cups/cartons, batteries, mineral oil, vegetable oil, gas canisters, fire extinguishers, fluorescent light tubes and bulky items such as mattresses, carpets and furniture.

All local authorities should provide facilities for the collection and safe storage, before treatment or disposal, of household hazardous wastes (HHW), including hazardous garden and household chemicals.

In line with the statutory waste hierarchy, reuse and repair should be prioritised over recycling wherever possible, and only non-recyclable materials should be sent for disposal as waste.

4.4 Performance and policies

Each RRC should aim to achieve at least 85% overall recycling and preparation for reuse and prioritise the collection and sale of clean materials and the safe disposal of non-recyclable materials.

RRCs have already become a key part of the resource collection network, providing key materials back into the economy, with steadily diminishing quantities of non-recyclable wastes being collected.

Local authorities should have appropriate RRC policies in place to support circular economy goals and to maximise diversion. Options include:

- Booking systems to help manage the flow of traffic coming into RRCs, better enabling site staff to use a 'meet and greet' approach to assist residents to use them effectively, as well as reducing queuing.
- Residual waste sorting and inspection - a policy of ensuring any recyclables are diverted from residual waste. This can be done by providing a specific area where residents place their residual waste for inspection and sorting. There should be appropriate information for residents about any policies regarding residual waste.
- Measures to control the misuse of these premises for depositing non-household wastes without charge. However, consideration should be given to any unintended consequences from such measures, e.g. 'van-bans' restricting the accessibility of the sites for households where a van is the only vehicle available to them.
- Allowing small businesses to deposit their separated recyclable waste streams at the RRCs. Where non-household wastes are collected at local authority RRCs, full cost recovery should apply and businesses should present wastes sorted into different materials rather than mixed. This does not replace the local authority's duties under the Workplace Recycling laws.
- Charging for construction and demolition wastes from households. It is a matter for each local authority to decide whether to apply charges for certain types of construction and demolition wastes at RRCs.

RRCs are permitted sites so therefore checks must be made that conditions of permits are being adhered to at all times, especially when considering any changes to management practices at the site

4.5 Bring sites and banks

In Wales in 2022-2023, 71% of materials collected for recycling or composting from households were collected from the kerbside, 28% were collected through an RRC and less than 1% were collected through bring banks, consisting mainly of glass and textiles^{xxv}. Bring site provision should therefore be regularly reviewed to ensure it complements the kerbside collection in place. For example, where the service is not available at the kerbside, textiles banks can be used to collect textiles for recycling and reuse. Many local authorities provide bring banks for textiles and dry recycling at their RRCs, as well as in other locations, which are discussed in the section above. While their role may no longer be as prominent, the strategic location of bring banks may also still be important in some remote areas.

5 Non-domestic waste collections

Local authorities have a duty to collect commercial wastes on request. Welsh Government introduced *Workplace Recycling Regulations* in 2024^{xxvi} to improve the quality and quantity of waste recycled from workplaces. The collection of recycling and waste from non-domestic premises must comply with these regulations – guidance is available from Welsh Government^{xxvii}.

The following materials need to be presented separately for collection, and collected separately and not subsequently mixed in the following streams as a minimum:

- food (from premises producing 5kg or more of food waste a week);
- paper and card;
- glass;
- metal, plastic and cartons & similar;
- unsold textiles;
- unsold small waste electrical and electronic equipment (sWEEE).

There is also a ban on:

- sending food waste to a sewer (any amount);
- separately collected waste going to incineration and landfill;
- all wood waste going to landfill.

Meeting the requirements of the regulations and supporting businesses to fully recycle will support the local authorities in meeting their statutory recycling targets.

5.1 Non-household waste at RRCs

Local authorities should consider allowing small businesses to deposit their separated recyclable waste streams at the RRCs. Where trade wastes are collected at local authority RRCs, full cost recovery should apply and businesses should present wastes sorted into different materials rather than mixed. Local authorities will need to ensure adequate arrangements are in place to weigh the waste and produce Duty of Care documentation (and invoices for full cost recovery) for this commercial waste if these are not already in place.

This service must be in line with the *Workplace Recycling* legislation and providing access to RRCs does not replace the duty to collect under Section 45(1)(b) of the Environmental Protection Act 1990 and collect separately under the *Workplace Recycling Regulations*.

6 Equality, diversity, inclusion (EDI) and poverty inequality

The *Equalities Act (2010)* includes a public sector duty that requires local authorities to consider how their policies, decisions, and services affect people with protected characteristics.

Each local authority will have its own unique demographic and considerations and must undertake its own equalities analysis and monitoring of its policies and services. Doing this will help ensure these essential services are inclusive, fair, and accessible to all residents, fostering a more equitable community. There should also be ongoing monitoring of equalities and the service e.g. service satisfaction and/or participation rates by protected characteristic groups. This will identify disparities and ensure service equity.

There are nine protected characteristics, the following table explores considerations and potential service outcomes for each.

Table 2: Protected Characteristics, Consideration and Service Outcomes

Characteristic	Considerations	Potential service outcomes
<p>Age Includes people of all ages, covering issues such as age discrimination and ageism.</p>	<p>Babies and Children</p> <p>Younger People</p> <p>Older people</p>	<ul style="list-style-type: none"> • Schools provision • Nappies (see pregnancy and maternity) • Supporting childcare • Promoting/Supporting Real Nappies e.g. vouchers • AHP • Additional Capacity • Flats / HMOs – equitable service • Student services • Information for carers • Assisted Collections (including promotion of service) • Extra Capacity • AHP • Bulky waste collections • RRC access • Healthcare/clinical waste • Care home provisions
<p>Disability This encompasses a wide range of physical and mental impairments that have a substantial and long-term adverse effect on an individual's ability to perform normal day-to-day activities</p>	<p>Physical accessibility</p> <p>Information accessibility</p>	<ul style="list-style-type: none"> • Assisted Collections (including promotion of service) • RRC accessibility and rules – vehicles, help on site etc. • Accessible reuse facilities • Bulky waste collections • Easy read / large print / clear everyday language • Brail / digital /audio/pictorial?

Characteristic	Considerations	Potential service outcomes
	Medical treatment	<ul style="list-style-type: none"> • Extra capacity • AHP collections • Clinical/ healthcare waste • Collection and reuse of mobility equipment
Gender Reassignment applies to individuals who are undergoing, have undergone, or are proposing to undergo a process (or part of a process) of reassigning their sex by changing physiological or other attributes of sex.	Medical treatment	<ul style="list-style-type: none"> • Healthcare waste • Avoiding offensive messaging / images
Marriage and Civil Partnership covers people who are married or in a civil partnership	No specific considerations	
Pregnancy and Maternity protection against discrimination on the grounds of pregnancy, as well as for mothers during the period of maternity leave.	Medical consideration Babies and young children	<ul style="list-style-type: none"> • Extra Capacity • AHP collections • Clinical/ healthcare waste • Reuseable nappies • Support nappy libraries • Reuse for babies and children's items
Race includes colour, nationality, and ethnic or national origins	Recognising the multi-cultural communities Minority groups more likely to live in multi-generational households	<ul style="list-style-type: none"> • Multi Language / Pictorial messaging • Engagement with diverse communities • Extra capacity (large households)
Religion Encompasses any religion (including a lack of religion) and any religious or philosophical belief (including a lack of belief)	Recognising the multi-cultural communities	<ul style="list-style-type: none"> • Multi language / Pictorial messaging • Avoiding offence – collection timing • Extra capacity at holidays • Providing additional services – churches, mosques etc
Sex This relates to discrimination based on a	Females	<ul style="list-style-type: none"> • Period products - reuse

Characteristic	Considerations	Potential service outcomes
person's sex (male or female)		
Sexual Orientation This includes heterosexual, homosexual, and bisexual orientations	No considerations for blueprint	<ul style="list-style-type: none"> Avoiding offensive messaging / images

As a minimum, assisted collections should be available to those that require assistance, such as some elderly or disabled residents, and additional capacity should be considered for larger households or those that produce more waste to ensure their needs are met.

In addition, there are several actions that local authorities can take that, whilst not directly related to a protected characteristic, they can help ensure equity across the community, support social cohesion and help those experiencing poverty:

- Reuse shops;
- Repair cafes and businesses;
- Library of things and hire businesses;
- Bike exchange / bike repair;
- Apprenticeships.

Local authorities also have a statutory duty to assess the sufficiency of childcare and to ensure, so far as is reasonably practicable, sufficient childcare is available to meet the needs of families in their area.

This is now more important than ever as we continue with our [Programme for Government](#)^{xxviii} commitments to ***fund childcare for more families where parents are in education and training or on the edge of work*** and ***deliver a phased expansion of early years provision to include all two-year-olds***.

Childminders³ play an important part in helping us meet these commitments, offering choice for parents while supporting and caring for children from domestic premises⁴. As set out in the [Independent Review Of Childminding](#) the decline in the number of registered childminders is likely to have a significant impact on childcare availability and accessibility. Welsh Government are committed to taking forward the recommendations of the Review and it is therefore crucial that all parts of national

³ A person acts as a child minder if the person looks after one or more children under the age of twelve on domestic premises for reward (section 19(2) of the Children and Families (Wales) Measure 2010.

⁴ Section 19(6) of the Children and Families (Wales) Measure 2010 defines “domestic premises” as “any premises which are wholly or mainly used as a private dwelling”.

and local government work together to remove any barriers or concerns for childminders so that we can sustain and grow this vital part of the sector.

In support of this aim, we ask that all local authorities across Wales continue to take a pragmatic and considered approach, in terms of childminder waste collections, recognising that most childminders operate from premises that are first and foremost their home. In taking this approach, you are playing an important role in ensuring we mitigate any potential impact on provision and choice, increases in costs for parents and most importantly contribute to the sustainability and growth of childminders across Wales.

7 Communications

The service should be regularly and appropriately promoted to residents using clear and consistent communications about both the practicalities of using the service and the reasons to do so. A dedicated communication resource with an annual budget should be established. Education opportunities via schools, colleges and universities should be undertaken.

Consideration should be given to the accessibility of communications to all residents. Where appropriate, easy read, large print, braille, audio or digital versions should be made available. In some areas, communication materials in languages other than English and Welsh may be needed.

7.1 Communicating performance to residents

WRAP's annual recycling tracker^{xxix} shows that Welsh citizens want feedback on their performance and how their recycling is managed. The *My Recycling Wales*^{xxx} website provides public information on how much recycling each Welsh local authority collects, and the reported fate of the materials recycled. This approach helps ensure transparency and a more precise evaluation of the environmental and carbon impacts.

A kerbside sort approach enables collectors to feedback to residents on which items should be placed out for collection and which items are contamination, encouraging high quality recycling. Robust contamination procedures should be in place to ensure the feedback principle is retained.

Wider stakeholder communications should also be undertaken, for example to members, call centre staff, and wider local authority workforce. Publishing good news about increased performance and praise to residents is encouraged.

8 Resource Management after Collection

8.1 Separation of materials

Waste collection services should be run in a way that prioritises preparing for reuse, repair and recycling (in descending priority order of importance). Keeping materials separate during collection increases the opportunities for preparing for reuse and repair, and increases the amount and quality of recycling that can then be used by Welsh manufacturers. This reduces carbon emissions and helps create a greener Wales. Providing material of the right quality and in the right way to the reprocessing sector is an important part of transitioning to a circular economy.

The materials reprocessing sector (manufacturers who either produce secondary raw materials out of recyclate or who manufacture new products that incorporate recyclate) provides a key growth market for materials collected for recycling. If materials are not appropriate for local reprocessors to use, they will either not be recycled or will potentially be exported for potentially lower value recycling elsewhere. This loss of materials to the local economy fails to capture the full financial and economic value of the materials and results in missed opportunities to grow the green economy, create green jobs improve the resilience of local supply chains and drive local community benefit. Exporting low quality, contaminated recyclables abroad is prohibited and can lead to adverse environmental pollution impacts, especially in developing countries with less stringent environmental regulations.

Welsh Government has prioritised an approach predicated on understanding reprocessors' needs and trying to align local authority services so that they can provide high quality feedstock to local reprocessors in return for good incomes and the circular economy benefits to their communities and the wider Welsh economy.

The *National Local Authority Waste Composition in Wales 2022*^{xxxix} quantified the difference in contamination levels between the three most common recycling collection systems in use in Wales. The analysis found that the proportion of contamination within separately collected material was 6.4%, while material collected through a twin stream service was 8.2% contamination, and 20.3% of material collected through a fully co-mingled service was contamination.

There are also significant overall carbon benefits delivered by kerbside sort collections compared to other kerbside recycling collections^{xxxix}.

8.2 Materials marketing

Welsh Government's aim in supporting the transition to the circular economy is not only in response to the environmental imperatives but also to retain materials in the Welsh and wider UK economy, thereby capturing greater economic added value from these materials and Wales' world class recycling rate. Welsh and UK

reprocessors are not only important customers of local authority collected recyclable materials, with the income from the sale of materials helping offset some of the costs of service provision, but through the provision of materials, the local authorities play a vital strategic role in moving to a circular economy and decarbonisation. In general, the higher the quality of material, the higher its financial value. Therefore, local authorities are urged to ensure they collect and provide high quality materials to market.

Local authorities can sometimes optimise the income from the sale of materials by presenting them together with those from one or more partner local authorities. Local authorities are recommended to explore the potential of different arrangements to optimise the benefits of marketing materials.

8.3 End destinations and performance information

The end destinations of recyclate collected in Wales are recorded and reported by local authorities to Natural Resources Wales via *WasteDataFlow*. Local authorities are required to report as much information as they reasonably can about where materials are sent for recycling. This approach helps ensure transparency and a more precise evaluation of the environmental and carbon impacts.

Local authorities should collect and market materials in ways that enable the benefits that accrue from the circular economy at a local and national level, prioritising where possible local end destinations of materials.

9 Maintaining a Recycling and Waste Service

An effective and efficient service requires continuous monitoring, maintenance and active management. This involves having in place appropriate:

- operational policies and processes including suitable enforcement;
- crew training and engagement;
- staff resourcing;
- health and safety systems/ management;
- depots and waste transfer stations;
- ongoing monitoring of the service;
- clear communications to residents and staff (as covered in section 7).

9.1 Operational policies and processes

A service should be supported by appropriate policies to maximise recycling and reuse, whilst minimising residual waste. These may include policies on preparing for reuse for wastes taken to RRCs and collected at the kerbside (especially bulky waste collections, but also including any kerbside collections of textiles and sWEEE),

residual waste, compulsory recycling, contamination, and education and enforcement.

Robust operational processes and procedures should be in place and be understood by relevant staff and operatives. These processes are likely to include collections processes such as assisted collections, missed collections procedure, container presentation, 'lock-out' for contamination of recycling material and site procedures such as traffic management.

Policies, processes, and procedures should be supported by establishing a clear structure and a culture of communication, responsibility and accountability.

A clear structure should include appropriate supervision to ensure the smooth running of the service. Ways this can be achieved include structured operational meetings, crew debriefs at the end of the shift, regular crew checks monitoring health and safety, compliance and cleanliness and addressing any crew concerns.

9.2 Crew training and engagement

Collection staff should be suitably trained and supervised to ensure that the service is operating effectively and that health and safety is maintained. Collection crews play a key role and this includes minimising contamination collected at the kerbside. Ensuring operatives reject non-target material ensures residents receive feedback as part of the education process which is essential. As well as the initial training, a programme of regular training and operational updates should be in place including regular opportunities for the crew to feedback on issues or concerns. Training topics are likely to include:

- health and safety – relating to specific incidents and updates to safe systems of work, risk assessments and/or route risk assessments;
- a schedule of regular toolbox talks covering industry guidance and updates;
- updates to processes and policies;
- refresher training on plant and machinery;
- working hours and expectations;
- general updates on the service and projects;
- training on handling difficult conversations and de-escalating conflict.

9.3 Resourcing

An efficient well managed service is adequately resourced and resilient. Resourcing considerations include:

- agency agreements to ensure the service can be adequately resourced when needed;
- actively managing any sickness absences;
- planning for Bank Holidays;

- health and safety – all accidents and incidents should be investigated to ensure lessons learned can be recorded and where appropriate, changes made;
- adequate personal protective equipment (PPE) provided to crews with a regular process for replacement and renewal of PPE in place;
- a phone/in-cab device should be issued to a vehicle/crew to maintain contact throughout the day;
- designed rounds to be achievable and efficient;
- vehicles and equipment should be fit for purpose and regularly checked, maintained and cleaned;
- driver and operatives to be trained in the use of vehicles and equipment;
- planning for climate change adaptation (for example the impact of higher temperatures, increased sea levels and extreme weather scenarios).

9.4 Health and safety

The waste industry has the second highest rate of fatal and non-fatal work-related injuries after agriculture and farming^{xxxiii}. A safe working environment is essential to the running of an effective reuse, recycling and waste service. This can be attained by developing appropriate practices and procedures which should be recorded in a suite of documentation. These documents should be regularly reviewed as per industry guidance. Corporate health and safety departments should play an active role in supporting recycling and waste services in developing and overseeing these processes and documents, and ensuring they are understood and followed by all. These documents are likely to include:

- safe systems of work;
- route risk assessments;
- risk assessments for collections and Waste Transfer Stations (WTS);
- adequate welfare facilities;
- noise & Occupational Health assessments;
- manual handling;
- reversing procedure;
- handling and de-escalating conflict situations.

9.5 Depots and waste transfer stations

Once collected, materials for recycling need to be delivered to appropriately designed and operated facilities to carry out any required sorting and bulking of materials before sale and onward transport to reprocessors.

All sites must have appropriate waste permits in place for the operations undertaken at the site, including a Fire Prevention & Mitigation Plan (FPMP) which meets Natural Resources Wales (NRW) guidance^{xxxiv}. The sites must be run by suitably qualified staff to ensure compliance with the waste permit conditions and comply with all

applicable regulatory requirements, for example, waste sampling and reporting requirements^{xxxv}.

Material transfer stations must have cleaning regimes in place to meet Health and Safety and to extend the life of expensive equipment. Safe systems of work must be in place and regularly reviewed to ensure they are fit for purpose and are being followed by staff.

New buildings should be designed to meet net zero requirements (including energy efficiency, renewable energy and consideration of embedded emissions), and existing buildings adapted in accordance with the net zero targets for 2030 set on public bodies in Wales. Where appropriate, buildings should provide charging points for ULEV fleets. Buildings and associated areas should support biodiversity in line with the duty under Section 6 of Part 1 of the Environment (Wales) Act 2016^{xxxvi}, which requires that public authorities must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems. The consideration of biodiversity also includes the goods and materials procured given that the extraction of natural resources globally is the main root cause of the global biodiversity crisis. The move to a more circular economy is as crucial to action on biodiversity as it is to decarbonisation.

9.6 Monitoring the service

The service should be monitored on an ongoing basis to ensure it is performing as expected and that any issues are identified and resolved as early as possible.

A variety of data sources are available, for example:

- round tonnages can identify areas producing more residual waste;
- in-cab technology can monitor participation and be used to log where materials are not collected due to contamination;
- routing software to optimise routes/collection rounds to make them more efficient and reduce fuel usage and vehicle CO₂ emissions;
- on-board weighing can be used to optimise the service and identify higher residual waste producers;
- monitoring material quality at the bulking location can identify rounds with higher proportions of contamination;
- monitoring crew performance and resident behaviours.

Annex 1 - Glossary

Absorbent hygiene products? (AHP) – Non-clinical/medical waste materials such as child and adult nappies, incontinence waste products such as liners and bed and chair absorbent pads.

Anaerobic digestion (AD) – A process of controlled decomposition of biodegradable materials under managed conditions where free oxygen is absent, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobe and facultative anaerobe bacteria species, which convert the inputs to a methane-rich biogas and whole digestate. Whole digestate can confer benefits to soils to which it is applied and the plants these soils support.

Beyond Recycling – Welsh Government’s plan to make the circular economy in Wales a reality where we keep resources in use and avoid waste. It was published in March 2021.

Cartons – Fibre-based composite packaging, being packaging material which is made of paperboard or paper fibres, laminated with low density polyethylene or polypropylene plastic, and which may also have layers of other materials, to form a single unit that cannot be separated by hand, used as packaging for food products such as milk, milk alternatives, fruit juice, soup, chopped tomatoes and pulses.

Closed-loop recycling – A process where a waste material: (a) is recycled into a new product of similar functionality; (b) replaces the virgin use of the same material in a different new product; or (c) replaces a higher embedded carbon raw material, and where the new product can itself be used, discarded and captured, to be recycled again, continuously cycling the material resource through the supply chain.

Examples of high quality, closed-loop recycling include:

(a) the use of recycled glass cullet in re-melt applications to create new glass products rather than for use as aggregate in construction;

(b) the use of recycled plastic to produce new food and drinks containers, rather than the production of mixed plastic polymer construction products that cannot practically be recycled at end of life;

(c) the use of recycled paper for the production of new paper products, rather than other uses such as animal bedding.

Container – Holds or stores waste within a physical barrier that prevents it from spilling or escaping. Waste containers are normally made out of plastic or metal. Containers include, for example, boxes (with or without a lid), wheeled bins, baskets or cages, plastic bags and skips

Co-mingled – Recyclate consisting of different types of recyclable materials that are mixed together or unsorted, such as paper, metal, plastic and glass.

Composting – An aerobic, biological process in which organic wastes, such as garden and kitchen waste, are converted into a stable granular material which can be applied to land to improve soil structure and increase the nutrient content of the soil.

Dry recycling – The recycling of dry materials, such as paper, card, cans, plastic bottles, mixed plastic and glass.

Electrical and electronic equipment (EEE) – Equipment that is dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields and designed for use with a voltage rating not exceeding 1,000 volts for alternating current and 1,500 volts for direct current. When EEE becomes waste, it is referred to as 'WEEE', small waste EEE is 'sWEEE'.

Energy-from-waste (EfW) – An energy recovery process that generates renewable power in the form of electricity, heat or transport fuels from the controlled incineration of residual waste.

High quality recycling – Requires that throughout the recycling collection and processing chain, the distinct characteristics of the material (for example the polymer, or the glass, or the paper fibre or the metal) are preserved or recovered so as to maximise their potential to be reused in the circular economy in a way that also maximises carbon emission savings.

Houses in multiple occupation (HMO) – In most cases a HMO is a house or a flat in which two or more households live as their main or only residence and where some of these households share basic facilities, such as a kitchen, toilet or bathroom. Other types of HMOs include converted buildings that include non-self-contained flats; buildings that include self-contained flats and which meet certain tests; and other buildings where basic facilities are missing.

Household waste (HHW) – Materials collected directly from households (kerbside collections), taken to bring sites (including civic amenity sites) or collected by private and voluntary organisations not included elsewhere.

Incinerator bottom ash (IBA) – The ash that is left over at the bottom of an incinerator after waste is burnt.

Landfill sites – Any areas of land in which waste is deposited are termed landfill sites. They are often located in disused open-cast mines or quarries. In areas where these are limited or no ready-made voids exist, the practice of land raising is sometimes carried out; waste is deposited above ground and the landscape is contoured.

Local authority municipal solid waste (MSW) – Household and non-household waste that is collected and disposed of by local authorities. It includes regular household collections, specific recycling collections, special collections of bulky items, waste received at civic amenity sites and waste collected from non-household sources (e.g. rubble, incinerator residues, plasterboard, and matter from beach cleansing). Local authority municipal waste excludes abandoned vehicles.

Non-domestic waste – See Section 75 of the Environmental Protection Act 1990 and applicable subordinate legislation, for example the Controlled Waste (England and Wales) Regulations 2012.

Non-household municipal waste – All waste collected by a local authority or its contractors, other than wastes within Schedule 1 and 2 of the Controlled waste Regulations 1992. This includes any other wastes collected by an authority, such as municipal parks and gardens waste, industrial or commercial waste and waste resulting from the clearance of fly-tipped materials.

Open-loop recycling – Where a waste material either (a) replaces the virgin use of a different material in a different new product or (b) replaces the use of a lower embedded carbon material and/or where the new product cannot itself be recycled after use, thus losing the material from the supply chain. Open-loop recycling is often associated with a

degradation of the material being recycled. Open-loop recycling is also referred to as downcycling.

Organic Waste – Organic waste includes food, green (garden) and other compostable waste.

Persistent Organic Pollutants (POPs) – Chemicals with toxic properties that remain in the environment for a very long time, accumulate in food chains, and can harm human health and the environment. If released, these pollutants can move across boundaries far from their source through air, water and migratory species - and they even accumulate in regions where they have never been used or produced. Some are becoming known as “forever chemicals”. With limited exceptions, POPs are generally no longer used in new products, but they can still be found in waste. If such waste (such as WEEE or textiles) is recycled, POPs may re-enter the economy when the resulting materials are used in new products.

Preparation (or preparing) for reuse – Local authority municipal waste is prepared for reuse for the purpose of the targets when:

(a) a waste product or component of a waste product has undergone a checking, cleaning or repairing recovery operation; and

(b) the waste product or component of a waste product can be reused for its original purpose.

Recycling – Any recovery operation by which waste materials are reprocessed into products, materials or substances, whether for the original or other purposes. It does not include energy recovery and the reprocessing into materials that are used as fuels or in backfilling operations.

Refuse Collection Vehicle (RCV) – Refuse Collection Vehicles are designed to collect waste and transport it to a suitable facility. Bins are lifted to be emptied and the material is then compacted.

Reprocessor – Carries out the activity of recycling, which is converting a waste into a product, material or substance that is no longer classified as a waste.

Residual waste - Waste that is not prepared for reuse, recycling or composting.

Resource and Recovery Vehicle (RRV) – RRVs are specialist vehicles used to collect recyclable materials that facilitate efficient kerbside sort approaches. They have multiple compartments to enable dry recycling and food waste to be collected in a single pass and kept separate. They are relatively lightweight and fuel efficient and have lower CO₂ emissions than RCVs.

Reuse – Reuse is a form of waste prevention where a substance, product or material is used again before it becomes waste. Also see definition for ‘Preparation for re-use’ above for the reuse of material after it has become waste.

Reuse and Recycling Centre (RRC) – Local authorities are required to provide sites for the deposit of waste by householders, as established in the Environmental Protection Act, s.51 (1) b. RRCs play an important role in helping people manage the waste they produce in a convenient and sustainable way. These sites are also known as Household Waste Recycling Centres (HWRCs), Waste Recycling Centres (WRCs), Community Recycling Centre (CRC), Household Recycling Centres (HRCs) or Civic Amenity (CA) sites. They are often referred to as ‘tips’ by the public.

Reuse/recycling/composting rate (statutory target definition) – Percentage of local authority municipal waste that is recycled, prepared for reuse or composted, calculated at time of distribution to disposal or recycling/composting contractors. This is, therefore, based on the amount of waste sent for preparation for reuse, recycling or composting, rather than collected for the purpose of being prepared for reuse, recycled or composted.

Towards Zero Waste – Overarching waste strategy document for Wales. It sets out how Welsh Government will build on the successes achieved through Wise About Waste - The National Waste Strategy for Wales (2002). It sets out a long term framework for resource efficiency and waste management between now and 2050.

Treatment – Physical, thermal, chemical or biological processes, including sorting, which change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery.

Waste – Any substance or object which the holder discards or intends or is required to discard.

Waste material – Defined broadly by the type of material it is composed of, for example glass, metal, plastic, paper and food waste. In some instances a waste material can be a type of product - electrical or electronic equipment (EEE) or textiles. Each of these materials has sub-fractions.

Waste stream – A category, or categories, of waste materials that are considered suitable for collection in a single container.

Waste sub-fraction – Refers to the different types of waste items that make up each individual waste stream. For example, plastic comprises of recyclable sub-fractions such as bottles, pots, tubs and trays composed of PET, HDPE or PP (see “Resin Identification Codes”) and non-recyclable sub-fractions such as items composed of PVC or PS.

WasteDataFlow (WDF) – WasteDataFlow is the web-based system for municipal waste data reporting by UK local authorities to government. In Wales municipal solid waste tonnages and destinations are recorded and reported by local authorities to Natural Resource Wales via WasteDataFlow.

Annex 2 – Sub-fractions that comprise each waste stream

The sub-fractions which can be included in each waste stream are listed in the table below.

Paper and Cardboard	
What should be placed in the container	What should NOT be placed in the container (unless the waste collector specifically allows it to be included)
<ul style="list-style-type: none"> • Paper (clean printed/unprinted) • Paperback books • Newspapers • Magazines • Catalogues • Envelopes • Telephone directories • Cardboard packaging • Egg boxes 	<ul style="list-style-type: none"> • Shredded paper (this can be recycled separately) • Food/oil/grease/paint or otherwise contaminated paper or cardboard • Hardback books (donate for reuse if suitable) • Wallpaper • Gift wrapping paper • Tissues • Paper towels • Kitchen roll • Scratch cards • Till receipts <p>Cartons and similar (The following should all be placed in the plastics, metals, and cartons container)</p> <ul style="list-style-type: none"> • Plastic or metal laminated cardboard food and drink cartons • Rigid paper containers (e.g. crisp tubes) • Laminated paper cups

Plastic, Metal and Cartons	
What should be placed in the container	What should NOT be placed in the container (unless the waste collector specifically allows it to be included)
<p><u>Rigid plastic packaging – only the fractions listed below</u></p> <ul style="list-style-type: none"> • Clean plastic bottles and lids (e.g. milk, drink, sauce, detergent, shampoo, chemicals, oils etc) • Clean rigid plastic food containers (e.g. butter/margarine tubs, yoghurt pots, fruit trays & non-black food and meat trays) • Disposable plastic cups (made only of plastic) • Plastic lids from drinks cups <p><u>Metal packaging – only the fractions listed below</u></p> <ul style="list-style-type: none"> • Clean food and drinks cans (steel & aluminium) • Metal aerosol cans (steel & aluminium, empty, no paint or harmful chemicals) • Metal chocolate and biscuit tins • Clean aluminium foil (no food or chemical contamination) • Clean aluminium food trays • Metal jar lids • Metal bottle tops • Empty aluminium tubes (e.g. tomato puree tubes) <p><u>Cartons and other fibre-plastic composite packaging of a similar composition</u></p> <ul style="list-style-type: none"> • Cartons made out predominantly of fibre but including a metalised layer (commonly used for soft drinks and milk) and a plastic neck and cap. • Rigid paper containers (e.g. crisp tubes) • Paper cups with a plastic inner liner (not made out of biodegradable or compostable plastic) 	<p><u>Plastic (a number of these items can be recycled separately)</u></p> <ul style="list-style-type: none"> • Black plastic food and meat trays • Plastic bags (including carrier bags, bread bags & frozen food bags, compost bags, fertiliser bags, feed bags) • Bulk bags for the delivery of sand, gravel, seed, feed etc. • Plastic film (including cling film, food tray film & pallet wrap, shrink wrap, silage wrap, crop cover) • Sweet and biscuit wrappers • Crisp packets / paper backed foil • Pouches • Sachets • Bubble wrap • Polystyrene • Rigid non packaging hard plastics (including toys, coat hangers, plant pots) • Compostable, biodegradable or oxy-degradable plastic packaging • Plastic coffee pods <p><u>Metal (a number of these items can be recycled separately)</u></p> <ul style="list-style-type: none"> • Paint cans (plastic or metal including aerosol spray paint cans) • Gas canisters (these should not be put in the general waste either as they will cause an explosion risk. They must be managed by an appropriately authorised contractor). • Metal scrap of any kind • Metal coffee pods <p><u>Other fibre-plastic composite packaging of a similar composition to cartons</u></p> <ul style="list-style-type: none"> • Paper cups with a compostable, biodegradable inner waterproof layer

Glass	
What should be placed in the container	What should NOT be placed in the container (unless the waste collector specifically allows it to be included)
<ul style="list-style-type: none"> • Clean glass jars (all colours) • Clean glass bottles (all colours) 	<ul style="list-style-type: none"> • Metal jar lids (place in the metals/plastic/carton container) • Metal bottle tops (place in the metals/plastic/carton container) • Sheet glass (window pane type, picture frame glass, car windscreen glass) • Mirrors • Light bulbs • Crockery (including ceramics and china) • Drinking glasses • Glass and ceramic cookware

Food	
What should be placed in the container	What should NOT be placed in the container (unless the waste collector specifically allows it to be included)
<ul style="list-style-type: none"> • All waste items that have at any time been food (which for this purpose does not include drink) intended for human or animal consumption • Biodegradable waste arising from the processing or preparation of food or drink 	<ul style="list-style-type: none"> • Any packaging (if recyclable, place in a separate specified container) • Items (including packaging) that are biodegradable, compostable, or oxy-degradable. • Large bones • Kitchen paper • Oils

Annex 3 – References and List of Evidence

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