



The Recycling Strategy for Cardiff 2022-2025: Cleaner and Greener

FINAL VERSION



Table of Contents

Foreword.....	4
Executive Summary.....	6
1. Aims, Objectives & Actions	7
2. National Context	8
2.1 Legislative Drivers	8
2.2 Towards Zero Waste, a Circular Economy and Beyond Recycling	9
2.3 Climate Change	10
3. Local Context.....	11
3.1 Current Service Provision.....	11
3.2 Current Performance and Comparisons	12
3.3 Achievements to Date.....	14
3.4 Challenges	15
Flats and HMOs	15
Socio-Demographic Variables	16
Trade Waste	17
Housing and Population Growth.....	17
4. Delivering the Aims & Objectives of the Strategy.....	19
4.1 Improve Material Quality.....	19
Action Plan for Dry Recycling.....	19
Action Plan for Compostable Garden Waste	21
4.2 Increase Recycling Participation and Capture	21
Household Waste.....	23
Trade Waste	23
Schools	24
Household Waste Recycling Centres (HWRC's)	24
Other Waste.....	25
4.3 Increase Opportunities for Communities & Residents to Recycle.....	25
4.4 Make Use of all Available Data to Develop Targeted Actions	26
4.5 Reduce Single Use Plastics (SUPs).....	27
4.6 Encourage the Prevention, Reuse and Repair of Materials.....	28
4.7 Contribute Towards Developing a Circular Economy within Wales	28
4.8 Action Plan and Key Dates	29
5. Working with Stakeholders to Deliver the Strategy.....	31
5.1 Working Together	31
5.2 Community Engagement	31
5.3 Behavioural Change Strategies	32

6. Monitor, Measure and Review	33
6.1 Measure and Review.....	33
6.2 Post Service Change Review and Monitoring and Measurement	33
6.3 Key Performance Indicators.....	33
Appendices.....	34

Foreword



Councillor Caro Wild
Climate Change

The science is clear that we will soon be facing a point of irreversible and catastrophic climate change, unless we take drastic action now. Clearly, in an emergency, a business-as-usual approach is no longer sufficient and we cannot escape the fact that, as a city, Cardiff is emitting more than its fair share of carbon.

Nowhere is this more apparent than in the amount of waste we produce. It is, perhaps, the most visual example of our climate footprint and driving up recycling will make a major contribution to the planet as it conserves natural resources, reduces demand for raw material, saves energy and cuts emissions.

Tackling climate change will require bold leadership from Government at all levels, innovation and a step change in behaviour across the private sector and, crucially, small but important changes in how we live our lives.

We can be proud that Wales is playing a leadership role in designing and implementing some of the most sustainable recycling and waste strategies in the World. We are currently the third best nation for recycling worldwide with Cardiff performing well in relation to other core cities in the UK. We recognise, however, that we lag behind other authorities in Wales in terms of our recycling performance.

There are some major challenges we must recognise and address if we are to improve Cardiff's recycling performance.

- The amount of waste we are producing is increasing.
- We are not recycling as much as we can. A massive 70% of items inside our general waste could be recycled, either through kerbside collections or at the household recycling centres. Instead, this is sent to the incinerator.
- We are not recycling correctly. Including items which can't be recycled, such as food and nappies, in our green bags means that 30% of our recycling has to be sent to the incinerator.

This approach is fundamentally unsustainable. It's bad for the environment and it is bad for the public purse. We simply cannot continue to collect incorrectly presented waste at everyone's doorstep, have it sorted out or burnt.

There is a much more sustainable way of managing our waste, that vastly reduces our carbon footprint and respects the earth's valuable resources. This strategy sets out that approach.

We must reduce the amount we use and re-use wherever we can. This means segregating our recycling so it can be re-purposed and developing a circular economy where we properly manage waste as a valuable resource.

We have undertaken extensive consultation and engagement with residents on what a new approach might look like, and conducted pilots in different parts of the city. We know that there is support to making these changes, but we appreciate that these changes will not always be easy. Doing the right thing rarely is.

This strategy sets out what we can do, together, to:

1. Reduce our carbon footprint and help tackle climate change;
2. Make better use of materials and create a circular economy that will provide more jobs and a more sustainable economy;
3. Help make our streets cleaner by presenting waste properly so that it can be collected quickly and effectively.

At the heart of these changes will be our brilliant workforce who work tirelessly every day, in freezing winters and scorching summers, to clean up our city. As part of this strategy we will ensure that we continue to support staff and create the right working environment.

This strategy sets out the positive changes needed to make Cardiff a Stronger, Fairer and Greener City.

We need everyone to get behind it.

Executive Summary

Cardiff is already one of the best cities for recycling in the UK and Europe. The purpose of The Recycling Strategy for Cardiff (2021-25) is to drive up our recycling performance even further.

This Strategy reaffirms our commitment to achieving the Welsh Government's statutory recycling targets and sets our intention to move 'Beyond Recycling' by keeping resources in use and avoiding waste. It also sets out how we will more effectively manage the city's waste to help meet the aims of our 'One Planet' strategy and support the transition to net zero Carbon by 2030.

The strategy focuses on three key areas of intervention:

1. Improving the recycling performance of the Council's Trade waste service.
2. Expanding the residential recycling service to include new segregation streams.
3. Diverting recyclable materials from the residual (non-recyclable) waste stream.

We know that there are a number of challenges facing us. Many of the challenges facing Cardiff, as a large urban area, are unique in a Welsh context. Issues such as a diverse housing stock, transient populations, a high proportion of businesses and a regular programme of major events present Cardiff with a range of challenges.

Alongside this, we know that the quality of our recycling is currently poor. Around 30% of the material within our green bags should not be there, meaning that materials that could be recycled have been contaminated and must therefore be burnt. That's almost 10,000 tonnes of valuable recycling material lost in 2021.

Worse still, if recycling bags contain material that shouldn't be there, such as food, it can be attacked by seagulls and other animals, creating an unsightly mess. Our dedicated team of waste collectors and committed network of volunteers work hard to clear Cardiff streets, but their job is made so much harder if we do not recycle properly.

Currently, we also provide over 27 million single use plastic bags a year for recycling. This simply needs to stop. Moving forward, the Council will need to provide re-useable containers which will be suitable for use across our diverse housing stock, in addition to encouraging the correct presentation of waste.

Finally, we know that 70% of the material within the general waste collected from the pavements could be recycled. We need to work with residents, alongside reviewing our collection methodology, to ensure that all of this material is recycled in the correct way.

Taken together, failing to recycle properly is bad for the environment, bad for the public purse and is bad for our local neighbourhoods. All these issues can be addressed by improving the quality of material by taking the actions set out in this strategy.

1. Aims, Objectives & Actions

The Aims of the Recycling Strategy are to:

1. Improve material quality
2. Increase recycling participation and capture priority materials
3. Increase opportunities for communities and residents to recycle
4. Make use of all available data, to develop targeted actions
5. Reduce single use plastics
6. Encourage and support the prevention, reuse and repair of materials
7. Contribute towards developing a circular economy within Wales

Alongside the aims and objectives of the Strategy, there are a number of core actions, which will help deliver Cardiff's vision. These are set out in Table 1 below.

Table 1: Final Strategy Objectives and Actions

Aims	Objectives
Improve Material Quality	Expand the recycling service to offer separate collection of glass ** (bottles and jars), fibres (paper and card) and containers (cans and plastics)
	Reduce compostable garden waste contamination, through education and enforcement strategies, and a full service methodology review
Increasing Recycling participation and capture of priority materials	Review Trade practices to improve performance and comply with non-domestic waste regulations. This will include changing collection methodology and targeting recycling contracts
	Relaunch an enhanced 'Really Rubbish' Campaign with schools and commercial trade to promote recycling services (and composting in Schools).
	Review recycling in flats and rented accommodation to increase performance, working with relevant partners such as Rentsmart Wales and WRAP Cymru
	Permanently adopt and enforce a no mixed bag/ bag sorting policy at Household Waste Recycling Centres.
	Review site layout and signage, booking in system and effective customer engagement at Household Waste Recycling Centres.
	Increase cleansing recycling performance through segregation of litter-picked waste and recycling litterbins
	Review residual waste provision and introduce measures to increase participation in food waste service
Increase opportunities for communities and residents to recycle	Implement static and mobile recycling facilities within local communities
	Expand Markets & collection opportunities for additional materials – Absorbent Hygiene Products (nappy and incontinence waste)/coffee pods/tetrapak/plastic film
Make use of all available data, to develop targeted actions	Undertake a Composition Analysis to determine the materials to target
	Monitor Participation to inform targeted activity
	Progress the Pink Sticker Campaign based on the principal of educate first, with removal of bins where there is repeat contamination Be Mighty Recycle Campaign/Keeping up with the Jones'
	Review all recycling contracts, to ensure minimum recovery rates are being met (where specified) and identify improved recovery
Reduce single use plastics	Implement re-usable containers for recycling
	Single use plastics strategy

	Expand water re-fill across the City, promoting re-usable bottles
Encourage and support the prevention, reuse and repair of materials	Wastesavers Reuse Centre at Lamby Way
	Collaborate on community activities such as Benthylg/Repair Café Wales
	CLARE Wales Repair Directory
	Develop a Zero Waste Map
	Develop a business case for a re-use/repair/education hub within the City
Contribute towards developing a circular economy within Wales	Work with partners- such as CLARE Wales- to develop regional solutions
	Continue existing processing partnerships, such as Prosiect Gwyrdd
	Take an active role in supporting the ‘Dyfodol Gwyrdd Glân’, / ‘Clean Green Future’ collaborative partnership for Welsh Local Authorities and the Welsh Government – seeking regional processing solutions for materials such as Absorbent Hygiene Products

2. National Context

The Recycling Strategy for Cardiff is framed by a range of legislative influences and national events (e.g. the COVID-19 pandemic) which shape and determine the waste produced and how it is processed.

This section of the strategy sets out the national context, recognising the contextual changes which can impact waste production, collection and end markets.

2.1 Legislative Drivers

The importance of the environment and the conservation of natural resources is increasingly recognised and supported by national and international policy and regulation, which aims to reduce the environmental impact of consumption and the production of materials.

In Wales, at the national level, there are two key policy documents to consider: Towards Zero Waste - The Waste Strategy for Wales (2010); and Beyond Recycling - A Strategy to make the Circular Economy in Wales a Reality (2021). These documents establish the key statutory performance requirements for local authorities in Wales, in support of the Welsh Government’s long-term ambition for a sustainable and waste free Wales. Other relevant Welsh Government and Central Government policies and legislative acts relating to sustainable development, improved environmental outcomes and addressing climate change include:

- The Waste (England and Wales) Regulations 2011
- Towards Zero Waste – The Waste Strategy for Wales (2010)
- Waste (Wales) Measure 2010
- Well-being of Future Generations (Wales) Act 2015
- Environment (Wales) Act 2016
- Climate Change Strategy for Wales

The Wellbeing of Future Generations Act is of particular importance in Wales with the sustainable development principles- as expressed through the Five Ways of Working- considered as part of the development of this strategy. The strategy also includes actions that are designed to improve economic, social and environmental outcomes.

2.2 Towards Zero Waste, a Circular Economy and Beyond Recycling

The Welsh National Waste Strategy, “Towards Zero Waste” was launched on 21 June 2010. The strategy set out a series of challenging statutory recycling targets, as outlined in Table 2 below.

Table 2: Statutory Recycling Targets

Target for LA Collected Waste	2019/20	2024/25
Minimum overall recycling	64%	70%
Maximum level of landfill	10%	5%
Maximum level of energy from waste	36%	30%
Biodegradable Landfill Allowance	33557t	-

Nationally, impressive progress has been made towards the targets, and Wales ranks as number 1 recycling nation in the UK, 2nd in Europe and 3rd in the World. Significant progress has also been made with regards to reducing reliance on landfill.

Although Cardiff has made substantial strides forward, in 2021/22 the city fell short of the 64% recycling target. As a result, the Council is now working closely with the Welsh Government to review a series of options to help improve recycling performance.

Looking to build upon the success of the previous strategy, the Welsh Government published their Circular Economy Strategy for Wales – Beyond Recycling, on 2 March 2021.

The national aim is to move to a circular economy in Wales, where waste is avoided and the things we use are kept in use as long as possible. This is an important part of the action needed on climate change. Welsh Government, and by extension Cardiff Council, is seeking to make the process of managing waste ‘Cleaner, Greener, Fairer’, through 6 core themes and 8 headline actions. The 8 headline actions are as follows:

1. Support businesses in Wales to reduce their carbon footprint and become more resource efficient
2. Provide the tools to enable community action
3. Phase out unnecessary, single use items especially plastic
4. Eradicate avoidable food waste
5. Procure on a basis which prioritises goods and products which are made from remanufactured, refurbished and recycled materials or come from low carbon and sustainable materials like wood
6. Strive to achieve the highest rates of recycling in the world
7. Reduce the environmental impact of the waste collection from our homes and businesses
8. Take full responsibility for the full lifecycle our waste

In addition to the themes and headline actions, the strategy sets a number of significant targets for Welsh Local Authorities:

Table 3: Beyond Recycling Targets

By 2025	26% reduction in waste
	Zero waste to landfill
	50% reduction in avoidable food waste
	70% recycling
By 2030	33% reduction in waste

	60% reduction in avoidable food waste
By 2050	One planet resource use
	62% reduction in the waste
	Zero waste
	Net zero carbon

Note: All waste reduction targets are set against a 2006-07 baseline

As the Welsh Government looks 'Beyond Recycling' to waste reduction and the circular economy, it is imperative that this strategy sets out not only how to achieve the current recycling targets, but also how the city will adapt to these new requirements in the future. Consideration must therefore be given to improving the quality of materials collected, waste minimisation through behavioural change and supporting community re-use and repair, the greener collection of materials and how we will work together with residents, partners and neighbours to meet wider goals and agendas.

2.3 Climate Change

Beyond Recycling, the Welsh Government strategy to make the circular economy a reality makes clear that:

'We are still in the midst of a climate emergency: globally, we are experiencing unprecedented climate events; we are on track for temperature rises above 2°C; one million species are threatened with extinction due to climate change and the overexploitation of natural resources; and there is increasing evidence of the adverse impacts that plastic is having on the environment and living organisms. Here in Wales, we are already feeling the effects with flooding and other extremes of weather becoming more commonplace. These challenges bring important opportunities to positively shape our future.'

Climate change is significantly impacted by unsustainable consumption and disposal practices. The circular economy approach is key to tackling over-consumption, whilst also instigating social and economic improvements for Wales. Small changes made across a city can have a big impact when it comes to slowing the negative impact of climate change.

By recycling material in 2020/21, Cardiff's residents avoided 36,000 tonnes of CO2 emissions being released into the atmosphere (www.myrecyclingwales.org.uk). Increasing the city's recycling rate, and reducing waste sent to energy recovery facilities throughout the life span of this strategy will continue to further reduce CO2 emissions and help make Cardiff a net zero city by 2030.

3. Local Context

3.1 Current Service Provision

Cardiff provides the following services as part of its household waste and recycling collection scheme:

- Weekly collection of mixed, dry recyclables in green, single use bags. There is no limit to the amount of bags that are collected per property.
- Weekly collection of food waste using a brown 25 litre kerbside caddy. Kitchen caddies, and biodegradable kitchen caddy liners are provided free of charge.
- Compostable garden waste is collected within a 240L green bin, or 90L white re-useable sack (in areas where wheeled bins are not suitable). Up to 2 green bins, or 5 re-useable sacks will be collected per property. Garden Waste is collected fortnightly in the spring/summer, and less often in the winter. There is no annual charge for the collection of garden waste, though additional or replacement containers are chargeable.
- Non-recyclable waste is collected in a 140L wheeled bin, or up to 3 black bags for properties that cannot have a wheeled bin. Residual waste is collected fortnightly. Additional capacity is provided, via a recycling officer assessment. No additional bags next to bins are collected, and bin lids must be fully closed.
- Hygiene waste (child nappies, incontinence pads and associated changing waste) is collected fortnightly, on the opposite week to non-recyclable waste. Residents need to sign up to this service.
- Bulky waste collections can be booked in advance via the contact centre, mobile app or website. Items that can be fully recycled, with high recovery rates and limited disposal fees, are collected free of charge. Non-recycled items are collected at a pricing structure of up to 2 items for £12.50, increasing to a maximum of 6 items.

In addition to the above, Cardiff Council provides two Household Recycling Centres, one at Lamby Way and one at Bessemer Close. The Recycling Centres have recycling facilities for over 20 items. Residents must book to visit, and are limited to 26 visits per year as standard (by car). Van bookings are further restricted to 12 visits per year, and 1 per month. Mixed bags of waste are not accepted. Residents must sort waste before arrival, and we will explore the opportunity to provide facilities to allow them to sort waste on site.

A trade weighbridge service is also provided at Bessemer Close, which is a chargeable outlet for businesses to recycle and dispose of a variety of materials.

What happens to the material collected?

Cardiff works in partnership with neighbouring local authorities, to process and sort material within our own boundaries.

Food waste is taken to an Anaerobic Digestion plant, run by Welsh Water. Here, food waste breaks down without oxygen aided by heat. Through the anaerobic digester, gases produced are harnessed to make heat and electricity whilst creating a fertiliser from any remaining product to be used in agriculture.

Mixed dry recyclables are taken to the Council's Materials Reclamation Facility (MRF) at Lamby Way, Rumney. Through a mixture of machine and hand sorting, materials are

separated and baled to move onwards to processors to be recycled into new products. You can find out where your recycling goes at www.myrecyclingwales.org.uk

The MRF is run effectively by a dedicated team of staff, working in a challenging environment. This challenge is further exacerbated by the level of incorrect items that are placed into green recycling bags. While the equipment and staff are able to deal with commonly misplaced items such as flexible plastic, they are not able to deal with dirty contamination such as food waste and nappies. Not only do these reduce the quality of material, and impact the machinery, they also have a negative impact on the environment our staff work in.

In addition, as the City has grown and amounts of recycling collected increased, space and ability to process all recyclable material has become a challenge. Infrastructure change is needed, and the Council is working with WRAP Cymru and Eunomia to complete a review to ensure our recycling facilities are fit for the future.

Garden waste is taken to a composting site at Lamby Way, where it is turned into soil improver through an open windrow process. The material is delivered to site, where it is then shredded, piled into windrows and regularly turned. The whole process is natural, with natural heat generated and breaking down the material. At the end of the process, the material is separated into different size fractions via a trommel screen, and moved on to the product market. The compost is also provided to a number of community facilities and schools on request, such as the new Railway Gardens site and to fill Love where you Live community planters.

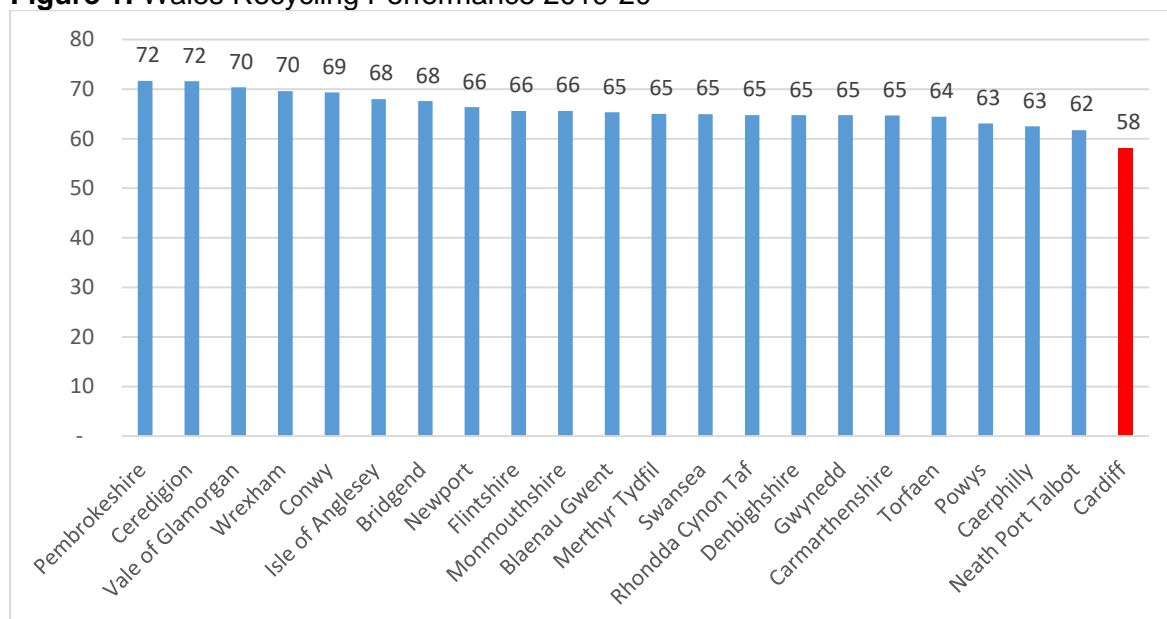
Non-recyclable waste is taken to an Energy Recovery Facility - run by Viridor - where it is used as fuel for energy recovery. The facility generates 250GWH of electricity for the national grid, which is enough to fuel 68,000 homes. Energy recovery works by burning waste at high temperatures, under carefully controlled conditions. The electricity produced is fed into the national grid. The process also produces 'bottom ash' which can be recycled as aggregate material as well as transporting remaining metal on to metal processors.

You can see a short video of the journey of Cardiff's waste here: [Cardiff's Waste Journey / Siwrnai Gwastraff Caerdydd \(English\) - YouTube](#) or visit www.youtube.co.uk and search 'Cardiff's waste journey'

3.2 Current Performance and Comparisons

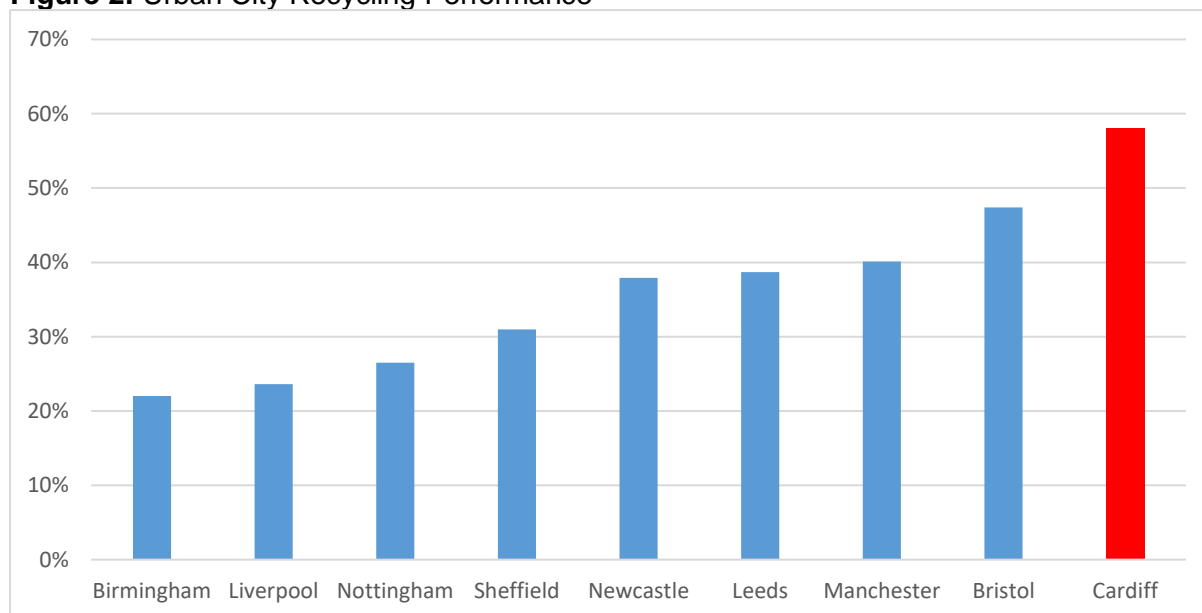
On 26 November 2021, the final validated 2019-20 Local Authority Recovery Target (LART) figures from Natural Resources Wales (NRW) were published. The figures are produced under NRW's duties as the Monitoring Authority as specified in the Recycling, Preparation for Re-use and Composting Targets (Monitoring and Penalties) (Wales) Regulations 2011. As Figure 1 shows, Cardiff did not meet the 2019-20 statutory minimum target for the percentage of municipal waste which must be recycled, Measure 2010. Cardiff's recycling performance in 2019-20 was validated at 58.14%, nearly 6% below the statutory target of 64%.

Figure 1: Wales Recycling Performance 2019-20



The Council understands the need to deliver another step change in performance. However, as the largest authority in Wales, with the biggest urban mass and highest density of businesses, there are very specific characteristics that make meeting the statutory recycling targets challenging. Larger, more urban cities, will naturally face greater challenges when it comes to increasing recycling performance. When compared to core cities across the UK, Cardiff's kerbside recycling performance compares very well (see Figure 2).

Figure 2: Urban City Recycling Performance



Note: The data for English authorities only includes household waste, whereas Welsh data incorporates all municipal waste (i.e. cleansing and Trade waste).

Despite falling short of the Welsh Government's target, Cardiff has areas of strength. In 2021/22, Cardiff saw a 9% increase in food waste collected from the kerbside and a 4% reduction overall in the amount of waste collected from the kerbside. Improvements to the operating of the Household Recycling Centres now sees recycling performance at over 87% with a 74% reduction in non-recyclable waste since the implementation of new controls.

A recent compositional analysis of green bags across the City found that there was 41.4% contamination in dry recycling bags collected from flats compared with 23.7% contamination in green bags collected from households.

The compositional analysis (Appendix 6) also indicates that there are still large volumes of food waste and recycling entering the residual waste stream. Waste collected from flats had the highest proportion of recyclable materials with 51.9% of the residual waste stream containing target recyclable material. Residual waste collected from households contained 42.5% target recyclable material (a large proportion of which was food waste). Whilst there is less recyclable material in household collected waste than there is in the flats collected waste, it is evident that there is still a significant amount of target material going to waste.

It is therefore essential that as well as improving material quality, we increase the amount of material segregated for recycling at the kerbside.

3.3 Achievements to Date

Whilst Cardiff has not yet met the 64% target, Cardiff Council remains fully committed to working collaboratively to improve recycling performance and to meeting both the 64% and 70% statutory performance target by 2024/25. Improvements to waste management and recycling performance are a fundamental part of the city's strategy.

The approach being taken is to look at the whole life of recycling materials; from supporting resident participation and behaviours, implementing efficient and effective collections to supporting ongoing participation, and managing how and where materials are recycled to deliver a circular economy and to reduce the associated carbon impacts.

A number of improvements have been introduced since the last strategy enabling the majority of aims set out in the Waste Strategy for Cardiff 2018-21 to be achieved. A full gap analysis has been undertaken, comparing performance against the objectives set out in the last strategy, attached at Appendix 1. The most significant achievements include:

- Introducing a segregated recycling trial at 4000 properties, consisting of separate containers, fibres and glass collections (following on from a separate glass collection pilot)
- Expanding the wheeled bin service where possible, reducing the number of single use bags provided for residual waste.
- Introducing a 4 day collection week, involving:
 - Rezoning the city and increasing round efficiency
 - Removing double shifting of vehicles and staff, meaning better opportunity for vehicle maintenance.
 - Removing the confusion around Bank Holiday Monday collections
 - Improving Value for Money
- Establishing a Reuse Facility at Lamby Way Recycling Centre in Partnership with Wastesavers (September 2021). Since opening, this facility has diverted 67t from the household recycling centres for re-use
- Introducing new controls at the Recycling Centres to facilitate an increase in recycling performance from 73% to 87%, including a no mixed bag policy, improved signage and recycling availability and booking system. This means that Cardiff is now has one of the best recycling performance for a Recycling Centre across Wales.

- Expanded Trade skip service to facilitate recycling skips.
- Developed new recycling infrastructure at hubs to facilitate small electrical items, printer cartridges, batteries and CDs/DVDs/Books recycling (collecting over 500KG so far).
- Continued to work with WRAP Cymru to undertake a review of potential waste collection systems, comparative costs and benefits.
- Commenced a full trade waste, and material processing review with WRAP Cymru.
- Introduced 12 electric vehicles to the service fleet, with 5 more eRCVs on order.
- Introduced a system to facilitate the recycling of materials collected during community litter picks.
- Implemented the 'Pink Sticker' campaign to highlight recycling containing non-recyclable materials. This supports the engage, educate, empower and enforce model for behaviour change, to improve behaviours towards recycling and reduce recycling contamination.
- Allowed asbestos to be accepted at Recycling Centres to tackle the negative impact of asbestos contamination on garden waste recycling. In 2019/20, 30 tonnes of garden waste was contaminated by asbestos with the requirement to dispose at specialist landfill sites.
- Implemented trials to improve recycling participation and quality in blocks of flats, while building relationships with Bristol Council, Swansea Council and WRAP Cymru to collaboratively develop further improvements.
- Engaged with 3326 residents through community engagement activity- including 845 school children- through the Really Rubbish Campaign between June 2021 and June 2022,.
- Ran mobile recycling facilities throughout the City,

3.4 Challenges

Whilst the above measures have been introduced, there has not been a significant improvement in Cardiff's recycling performance since 2016/17. This is partly due to Covid delaying the progress and visibility of some of these changes, and partly due to the fact that increasing performance is inhibited by a number of challenges.

In section 5, the strategy outlines how we will improve performance through a myriad of actions, but first it is important to contextualise the plan of action by outlining the challenges faced by an urban authority. These can be categorised into 4 key areas:

- Flats and Houses of Multiple Occupancy (HMO's)
- Socio-demographic variables
- Trade and events
- Housing and population growth

Flats and HMOs

Approximately 30% of the total number of properties in Cardiff are flats, normally serviced by communal bin arrangements. Improving the quality and quantity of recycling from flats is recognised nationally as a challenge with no identified blueprint to resolve this issue.

In addition, Cardiff also has a high volume of registered Houses of Multiple Occupancy (HMOs) serviced by the kerbside collection scheme. HMOs present a unique set of challenges for local communities and the Local Authorities. In areas with a greater number of HMOs such as those areas near University campuses, the density of the local population is higher, and, therefore, the demand for services like waste and recycling is greater. HMO households are also frequently associated with lower recycling levels and excess waste and present specific challenges in engaging with residents

The scale of the challenge is underscored by fact that there are 50,000 flats in Cardiff. This is higher than the entire housing stock of authorities such as Anglesey, Denbighshire, Ceredigion, Merthyr, Blaenau Gwent, Torfaen and Monmouth (StatsWales 2019 data).

Of these flats, 42,000 are in blocks of 4 or more, with communal collection arrangements. The high proportion of flats and HMOs creates very specific issues. People who live in flats recycle much less than those who live in houses, though there is a lack of substantive evidence about exactly why this is, or how it might be improved¹.

The fact that 30% of the housing stock is comprised of flats may contribute towards Cardiff's disproportionately high recycling reject rate. At present, 8% of dried mixed recycling (DMR) is rejected in Cardiff, compared with a Wales average of 2%. The Council is committed to working with WRAP Cymru to undertake further analysis of the composition of recyclables collected from flats, to scrutinise this assumption. It is acknowledged that although 30% of Cardiff's housing stock is flats, the waste collected from flats does not contribute 30% of total arisings, due to the reduced occupancy level per dwelling. Nevertheless, this is a key area of challenge.

Socio-Demographic Variables

The levels of poverty in parts of Cardiff are high in comparison to other authorities in Wales. If the Southern Arc of Cardiff (comprised of the electoral divisions of Adamsdown, Butetown, Caerau, Canton, Ely, Grangetown, Llanrumney, Riverside, Rumney, Splott, Trowbridge) was considered a single local authority, with a population of 170,000, it would be by far and away the most deprived local authority in Wales. Many of these wards are also multi-cultural with high levels of transient population. As noted in the recent House of Commons Briefing Paper - Household Waste Recycling², housing mix and multi-occupation are an identified barrier to recycling rates across Britain. As the report notes *"Recycling rates are falling in areas where there is an increase in multi-occupancy dwellings. Rates also tend to be lower where there are challenges with social deprivation, urban classifications, education, language and residential stability."* All of these factors are prevalent in the Southern Arc of Cardiff and affect levels of participation in recycling.

There are also approximately 70,000 students registered to study at Cardiff Universities, resulting in a large student population within the city. The high academic calibre of the region's Universities combined with Cardiff's many amenities, affordability and friendliness makes the city an attractive place for students to live. As a result, the student population is projected to grow significantly over the next five years, and investment in education and engagement will need to grow to meet the increased demand.

For many students, this will be the first time they have lived away from their family home and are navigating the new responsibilities that come with independence. Second and third year students and post-graduates often choose to reside in private housing within the community

¹ Making Recycling work in Flats - Resource London.

² [Household recycling in the UK - House of Commons Library \(parliament.uk\)](#)

The Council, the Universities, the Student Unions and the third sector work in partnership to provide education and engagements programmes and targeted interventions to address these issues on an annual basis as new students move into the community.

Trade Waste

Cardiff Council offers a trade waste collection service, which has been built on providing a reliable and responsible service to Cardiff's businesses. It has a loyal customer base, with a consistent number of around 3,000 customers, representing around 30% of businesses within the city.

The provision of trade waste collections is not a statutory requirement, and it is therefore a variable factor in achieving recycling targets across local authorities. Trade waste makes up over 9% of Cardiff's total waste collected, in comparison to the Wales average of just under 4%.

A high level analysis suggests the entire removal of this service would see an immediate improvement in Cardiff's recycling rate of 3.7% (WRAP High Level Analysis of WasteDataFlow). However, Cardiff Council does not consider eliminating trade waste to help achieve the statutory recycling target as an appropriate or sustainable intervention. On the contrary, Cardiff recognises the high potential recycling gain available within the city's trade waste stream, and has identified a list of short and long term actions to grow this potential. The Council also recognises the need for the Council to lead by example, to engender a significant improvement in recycling right across the private trade waste collection sector in the city.

The Council is working with partners to complete a full trade review to understand the opportunities to improve recycling in this area. At present trade is recycling around 42% of waste collected, thus impacting upon the city's overall recycling performance. However, it is clear, there is scope to significantly improve this figure in line with the emerging Non-Domestic Waste Regulations, and in doing so increase the overall recycling performance of the city by at least 3%.

Housing and Population Growth

Cardiff's population has increased steadily over the past 30 years (by about 2,400 people per year) but much more rapidly since 2001 (by about 3,500 per year). The 2021 census recorded a population of 362,400.

Welsh Government projections indicate that the number of households in Cardiff will increase by 37% between 2008 and 2026 from 136,741 to 187,302 households. According to the Welsh Government projections, this is driven partly by in-migration (particularly net international migration), partly by natural population increase (more births and fewer deaths), and partly by a decline in average household size with over three quarters of the growth being for 1 and 2 person households. (Cardiff's Local Development Plan 2006-2026).

It is important to note that Cardiff's Local Development Plan (LDP) is currently being reviewed, with a view to preparing a replacement LDP to cover the period 2021-26. Various elements of the original evidence base will need to be updated, to take account of issues such as land availability and policy and contextual changes since the adoption of the former plan. For the time being, the projections available in the current adopted LDP have been used to provide some context to the challenge.

Table 4: Population growth projected over the course of this strategy

Year	LDP Population	% increase	LDP Households	% increase
2020	381023		164126	
2021	384679	0.9%	166413	1.3%
2022	388329	0.9%	168700	1.3%
2023	392024	0.9%	170987	1.3%
2024	395795	0.9%	173274	1.3%
2025	399666	0.9%	175561	1.3%
2026	403684	1%	177845	1.3%

Source: LDP Edge Scenario C

This growth will inevitably lead to increases in the levels of waste required to be collected. The Council will need to ensure, through the relevant planning processes, that adequate external storage is provided for the separation of waste materials, with additional consideration for future proofing should collection services change. In addition, the impacts on collection round sizes, additional vehicles and staffing will need to be considered.

4. Delivering the Aims & Objectives of the Strategy

4.1 Improve Material Quality

Action Plan for Dry Recycling

Cardiff Council has been supported through the Welsh Government Collaborative Change Programme (CCP) to investigate the impact of various recycling and waste collection options, in terms of both cost and performance. We will expand this work further to review the carbon impacts of each option. In addition, the CCP has provided ongoing support in relation to high-level analysis of the data reported within waste data flow, alongside a full trade waste and material processing review. These pieces of work have provided the Council with long-term service change options and also identified areas of improvement that can be made in the short to mid-term.

As illustrated by Table 5, the outcome from the approach to kerbside modelling showed a limited uplift to recycling and recovery rates and the need for a range of further interventions if Cardiff is to meet statutory recycling targets. The Council is clear, however, that the current recycling collection service cannot remain as is, as material quality needs to be significantly improved.

Table 5: Summary of Modelling Results

Options	Option Details	Performance change compared to Baseline* – (% MSW Recovered)	Option cost – Compared to Baseline cost (£000)
Option 1	Kerbside sort with food on same vehicle	1.60%	-£1,373
Option 2	Kerbside sort (paper/card mixed) with food separate	1.60%	-£666
Option 3	Separate glass (caddy), separate fibres and containers in reusable sacks on a One Pass vehicle	1.40%	-£113

Notes relating to Table 5:

- 'Baseline cost' – is what the service cost at the time of the modelling i.e. the 'business as usual cost'.
- Option cost' refers to the difference between the baseline or business as usual cost and the proposed option cost.
- 'As is'- material from kerbside collected as identified in section 2.1, collected via our standard Refuse Collection Vehicles
- 'Kerbside sort'- separate containers for glass, paper, cardboard, plastic bottles, tubs, trays and tins/cans. Collected on a kerbside sort vehicle with multiple stillages. Material is bulked and reprocessed with limited need for sorting of material
- 'Fibres'- paper and cardboard
- 'Packaging'- metal tins/cans, plastic tubs, bottles and trays
- One pass- a refuse collection vehicle, with a 70%/30% split at the rear to keep 2 materials separate, and a pod for glass at the front

WRAPs High Level Analysis of the *Waste DataFlow* document indicates that, currently, just over 30% of MRF inputs are rejected, with 18% being non-target material, and 12% lost as part of the processing.

Co-mingled (mixed) reject makes up 8% of the total non-recyclable (residual) waste arisings, which is 6% higher than the Welsh average. To put this into context, based on 2019/20, approximately 10,000 tonnes of material were lost to reject. Assuming that 60% of this material could have been recycled, if it had been segregated correctly, an additional 6,000 tonnes of material would have been gained. Given that an additional c2000t of recycling equates to approximately 1% increase in performance, without contamination an additional 3% could potentially be achieved towards the overall recycling performance.

Whilst the above is a crude calculation, it is still clear that there is much to be gained by changing the way in which recycling is currently collected and processed. There is therefore a need to move towards segregation of materials collected in order to improve material quality and secure end market destinations for the recyclables collected. Further to this, Beyond Recycling highlights the need for high quality material to feed reprocessing and remanufacture within Wales.

The CCP modelling further suggests that by introducing reusable containers - as well as separate material streams - contamination significantly reduces. There are a number of assumptions as to why this would be. Providing a container that needs to be returned to a property is likely to reduce the temptation of placing 'unclean' material into the container, such as nappies and food waste. The Council's current recycling collection allows an 'out of sight, out of mind' culture, where bags are removed from the kerbside.

Furthermore, segregating materials and providing open containers will make it easier for collection crews to identify and reject any incorrect materials. The current single stream services - food waste and glass bottles and jars - report extremely low contamination rates, demonstrating the benefits of reusable containers and segregated material collections.

There is, currently, a separate recycling collection pilot running, within 4 areas of the City. Residents in these areas are using a reusable sack for containers, a reusable sack for packaging and a caddy for glass. Initial results have been extremely promising, with contamination levels in the region of just 5% and material quality significantly improved.

A range of vehicles have been trialled in these pilot areas, which has provided key data on a range of improvements that need to be made. During the Autumn 2022, we will have a multi stream collection vehicle in these areas, which will be capable of collecting 4/5 recycling materials at a time. At this stage, we will be able to expand the pilot further into the City, building on lessons learnt from the first phase of the pilot.

Based on the results of this trial - and further modelling in partnership with WRAP and the WLGA - Cardiff will produce a business case for a new improved recycling collection to be delivered across the City over the coming years.

Whilst the model is not yet finalised, it will meet the aims of the strategy to improve material quality, increase participation and reduce single use plastic sacks, which are not a sustainable option. It will also take into account public consultation and the growing appetite for more sustainable services. Public consultation was undertaken in Spring 2022 and received 3,305 responses. 85% of respondents agreed that there is a need to improve material quality. The majority were in favour of either a 3 stream or kerbside sort model (48.8% and 19.2% respectively), but 32% said that different options should be considered for different parts of the City. Full results can be found in Appendix 7.

Whatever the agreed future design model, it will need to provide sufficient material feedstock to develop a circular economy within Wales. Improved material quality is essential to achieving

this objective, and it is evidenced that optimum material quality is achieved through increased segregation of waste. In addition, the service will need to be sufficiently future proofed, to allow for the collection of additional materials in the future, as packaging changes and recycling markets update.

We acknowledge that change will result in uncertainty for a period of time. By recruiting extra front-line staff, we will be able to strengthen education and enforcement activity, which will be key to delivering these strategic changes and supporting communities through them.

Action Plan for Compostable Garden Waste

Between 2017/18 and 2019/20, an average of 700 tonnes of garden waste was rejected each year. Where loads are rejected, it has a negative impact on recycling performance, and also on costs of service. In 2019/20, contaminated garden waste cost the authority an estimated £140,165.

Furthermore, whilst 90% of the materials rejected could have been good quality garden waste, where just a few residents contaminate their bin with non-recyclable items, ultimately they jeopardise all the materials collected by that vehicle on that day.

As garden waste collections became more regular following the Covid 19 pandemic, an extensive education programme took place to advise residents what can and cannot go into the green wheeled bin (or garden waste sack in bag areas). The programme was successful, with loads that have been historically rejected from certain areas accepted. The programme was successful in part due to the constant presence of the team in target areas, alongside the delivery of a letter to each property reminding them of the correct items to place into the bin. However, it is resource and cost intensive and is unlikely to be sustained for the long term.

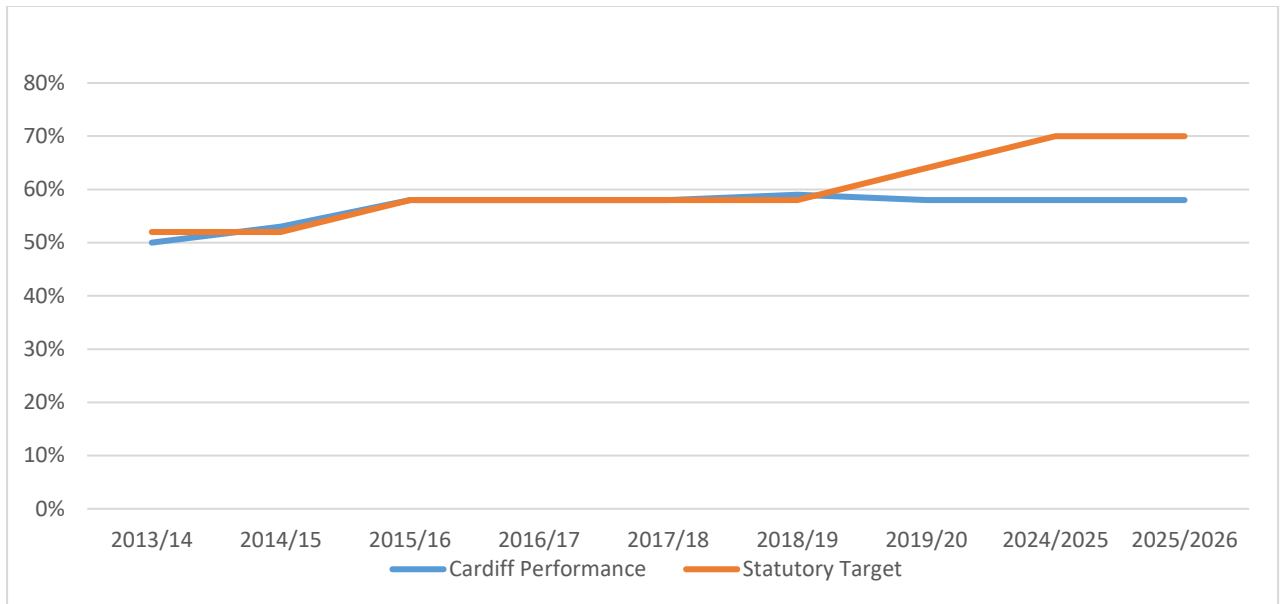
Contamination remains a problem, particularly where residents hide non-target materials underneath garden waste, as the crews are then unable to identify the contamination. Often, crews do not see the contamination until the bin is tipped into the back of the vehicle, by which time it is too late.

The current collection methodology allows 'hidden' contamination to take place. As such, the Council intends to undertake a full service review of compostable garden waste collections. This will include benchmarking with other Local Authorities, analysing contamination rates associated with alternative collection methods to identify whether infrastructural changes would help to reduce contamination.

4.2 Increase Recycling Participation and Capture

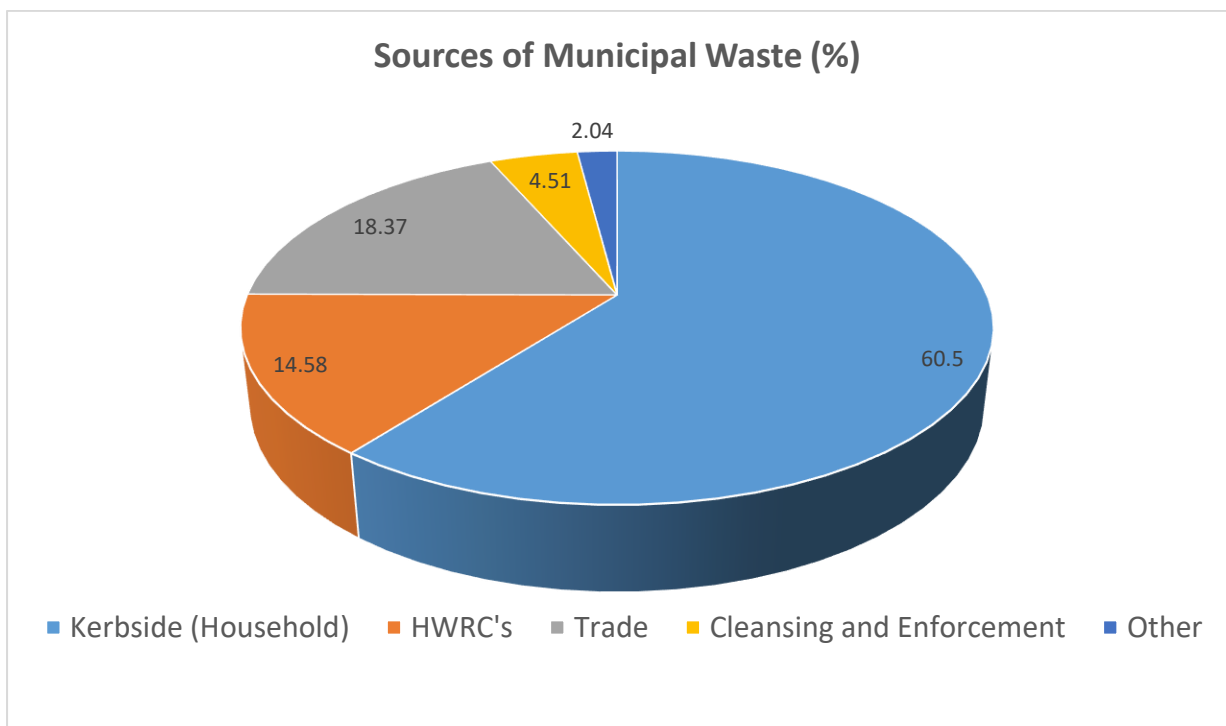
Cardiff's Local Authority Recycling Target (LART) performance for 2020/21 was circa 58%. Although unverified, performance remained at 58% for 2021/22. The graph below illustrates that performance has remained relatively stable since 2016/17, with the stepped performance increase up to 64% not having been achieved.

Figure 3: Cardiff Recycling Performance 2016/17 – 2020/21



In order to build on the current recycling performance, it is important to identify the sources of waste collected throughout the city. This enables focus to be placed on key areas of opportunity.

Figure 4: Cardiff Municipal Waste Composition (%)



Household Waste

As Figure 4 above illustrates, kerbside household collections represents the highest proportion of waste collected. Opportunities to improve in this area include:

- improving the quality of the material collected.
- encouraging regular public participation in all available kerbside recycling schemes, and with food waste in particular).
- targeting and capturing, key priority materials for collection.

After reject, Cardiff collects 100kg/hh/yr of food waste, ranking 11th in Wales. The Wales total is 97kg/hh/yr. There is potential for improvement, with the highest performing Welsh authority collecting 129kg/hh/yr. If Cardiff were able to achieve 129kg/hh/yr it would add another 2.1 percentage points to the municipal recycling rate.

As well as improving the performance of recycling collections, a review of Cardiff's residual waste collections will also be undertaken. This will consider whether the provision of a fortnightly service, of 140L per household capacity, is appropriate in terms of balancing the specific urban challenges faced by a capital city with the need to achieve improved recycling performance. In particular the Council needs to encourage more food waste to be removed from the residual waste and put into the food recycling caddy.

Modelling has been undertaken on all of the options outlined in Table 5. Less frequent residual waste collections result in a significant increase in the recycling rate uplift ranging from 3.5-3.7%. The Council will now carry out further analysis to consider what capacity is needed and which waste streams and areas to target.

The number of flats throughout the city is a real challenge in terms of recycling performance. Flats have not been included within the modelling outlined, however, it is clearly an area of potential to be explored, yet one where little data and guidance exists. A composition analysis of waste from flats has been started, and this will be used to help inform a number of trials in flats. The trials will explore how different collection methods and educational initiatives can increase the quality (and quantity) of materials collected for recycling. In addition, a toolkit for property management companies will be developed, to work in partnership to improve recycling facilities at targeted blocks of flats. This toolkit will include a review of current bin provision, bin store design and layout, and signage and communication tools.

Trade Waste

Trade waste collections offer a significant opportunity to improve current recycling performance. At present, it is estimated that 40% of material collected is recycled. If the Council's trade waste service was to simply reduce its residual arisings by 50%, it would deliver a 1.8% increase in overall recycling performance. However, if the Council is able to divert priority recyclable material (estimated at 60%) from the residual waste, and into the recycling streams, it could lead to a potential performance increase of 4.2%.³

Working with partners, a full trade review will be undertaken to identify potential improvements and to ensure compliance with the Non-Domestic Waste Regulations which are due to be implemented by the Welsh Government over the coming years. The Business Waste Regulations require waste producers, and collectors of waste to separate key priority materials for recycling.

As a contracted trade collector for over 3000 businesses throughout the city, the Council will support the implementation of the Non Domestic Waste Regulations. In the interim, and in lieu of the regulations being in place, a trial of separate collection of 3 waste streams from

³ *High level analysis of WasteDataFlow Returns- WRAP Cymru*

businesses will be undertaken, in readiness for a change across the whole city. In addition, all customers who are currently contracted for a residual waste collection only will be contacted to encourage recycling and where these discussions aren't successful, consideration will be given to suspension of the contract. As part of this, work will be undertaken to address incorrect presentation of material, through increased targeted intervention with customers. This will include a review of processing methods currently used, to ensure as much recycling as possible is being captured. For example, the thorough post sort of material collected from within contracted, mixed skips alongside the removal of mixed skips on 'ad hoc' occasions. Instead customers will be offered the option of providing a skip for a single material stream.

Some work has already begun to progress these actions. Following the return of customers after lockdown, contracts were renewed for customers who were encouraged to implement source separation for recycling. Customers have also been offered separate services for food waste, glass, paper, card, metal and plastic. For customers with residual only contracts, this was a mandatory requirement in order for collections to restart.

Between April and Dec 2021, the number of customers with glass collections has increased by 245%, food by 25% and recycling collections by 10%.

Since July 2021, Trade Waste have ceased to provide mixed waste skips to any one-off customers. The team are now requesting customers to organise separate skips for different waste streams (such as rubble, soil, garden waste etc) which can be diverted to a recycling facility. Since this change the Trade Waste skip service has provided 150 single waste stream skips to one-off customers (from July 2021 to Jan 2022), all of which have been diverted to be recycled.

Schools

91% of respondents to the recycling waste strategy consultation, believed that it was important tap into the enthusiasm of young people, to make long term changes.

The Really Rubbish Campaign will be relaunched to encourage recycling and composting in schools. Linking with the Love Where You Live Campaign and Trade Services, the Waste Strategy Team will offer comprehensive support to Schools. This will include school talks, online resources and provision of support for community growing schemes. The campaign has engaged with 845 children since being invited to return to schools, following the Covid 19 pandemic.

Alongside school workshops, the campaign will also link with partnership projects via Child Friendly Cities.

Household Waste Recycling Centres (HWRC's)

The city's Household Waste Recycling Centres are already performing at levels in excess of 80%. To maintain this high level of performance, the current booking system will be retained.

The Council has completed a full signage, and appearance review, based on recommendations from the *WRAP Cymru Assessment Report of 2021* which identified that 'signage which is easily readable and readily understood encourages site users to recycle with confidence'. To further extend this, digital signage has also been introduced at HWRCs, which are being used to feedback on recycling performance, and can be used dynamically to respond to any issues on site, resident's feedback etc.

Whilst work to identify and appropriate HWRC site in the North of Cardiff is ongoing, no suitable locations have yet to be identified, and the provision at existing sites in Cardiff currently exceeds demand.

The Council continues to run mobile recycling centres across local communities. The site at Ty Glas, whilst not a permanent solution, initially proved popular with over 500 visitors. This demand, however, reduced over time to just 184 visits per event. Whilst the site has generated 135t of recycling, analysis identifies that this is material diverted from the existing sites rather than additional material. Nevertheless, the initial demand for this service suggests that there are benefits to running pop up sites within the Community and opportunities for future events and locations are being explored. In particular, opportunities are being explored for sites that allow safe pedestrian access.

The recycling and waste strategy consultation also identified that 77% of respondents use a Household Recycling Centre. 91% felt that the number of slots available per year was sufficient for their needs and 52% would like to see increased opportunities to donate items rather than recycle.

Other Waste

As 2025 approaches, all contributions to the city's overall waste arisings will need to be interrogated, no matter how small. To support this, further recycling segregation will be introduced, through the Council's cleansing and enforcement teams, including provision of single stream recycling litter bins, exploring the potential of increased split caged vehicles and ensuring fly-tipped waste is segregated wherever possible.

4.3 Increase Opportunities for Communities & Residents to Recycle

In order to increase recycling performance, recycling needs to be as easy and accessible as possible. WRAP's National Recycling Tracker survey 2020 identified that 15% of respondents believed that local council's do not collect enough things for recycling. This was mirrored in the results of the recycling and waste strategy consultation, which identified that 77% of respondents would like to see additional materials collected from the kerbside, whilst 82% would like to be able to recycle items in their local community.

In response the Council will seek to expand the range of, and opportunities to, recycle additional material. Current examples include work with Podback to explore the viability of kerbside coffee pod collections; and the recent diversion of Absorbent Hygiene Product (AHP) waste for recycling at a specialist plant. New facilities have also been introduced to make it easier *'to do the right thing'* in relation to the recycling of items such as small electrical items, textiles, batteries, and tetra paks.

At present there are a number of barriers to recycling such items. Firstly, during 2020/21 there has been a significant increase in demand for bulky waste collections. This has resulted in long lead times for collections and necessitated a review of the items collected. A policy decision was made to remove the collection of smaller items from the bulky waste collection service to reduce demand on the service and reduce lead times for the collection of larger bulky items that present storage issues at home. Secondly, control measures, such as the booking system introduced at HWRC's as a result of COVID-19 will be reviewed. Whilst there are ample slots available, the booking system may deter use of the site, as there is an annual visit limit of 26 visits per year. Thirdly, bicycles are not currently allowed to access the recycling centres. This is standard practice across the industry, however, there is appetite to enable sustainable travel while recycling.

As a first step towards addressing the above, the Council has implemented a pilot of 4 community recycling zones, with over ½ tonne of material collected over a period of only a few months. Following the success of this pilot, we are looking to expand these recycling zones across the City Hubs. These locations will be on accessible public transport and cycling routes where possible, and integrated within communities so that walking to recycle may even be possible.

The city's two Household Waste Recycling Centres currently have sufficient capacity to meet the current need. However, given the predicted levels of growth in population in the city in Cardiff's Local Development Plan, the Council will continue to review the need for an additional Household Recycling Centre.

The Council will also explore the possibility of pop-up recycling/repair centres, to facilitate the reuse, repair and recycling of items such as small domestic appliances, which can be hard to dispose of, and are very damaging to the environment.

4.4 Make Use of all Available Data to Develop Targeted Actions

Cardiff has set out its vision to be a 'Smart City'. This involves using data to improve decision making, provide better services and promote innovation. This approach will also be adopted across the Council waste and recycling services.

Work will be undertaken to identify new sources of data, within the recycling services operation, that can be utilised in line with the open data strategy. This includes areas such as education and enforcement action statistics, as well as promoting the open data available in relation to recycling and material destinations, including *Stats Wales* and information published from waste data flow at www.myrecyclingwales.org.uk. This will provide confidence in the transparency of the recycling process, which is identified as an action within the 'Building on our recycling record' core theme within the Beyond Recycling Welsh Government strategy.

In order to increase participation and capture, it is important to understand what is currently being collected. For this reason, the Council has worked with WRAP Cymru to undertake a programme of compositional analysis of kerbside collected, and flats collected, residual and recycling waste. The results show current capture rates of priority materials, and provide clear evidence for areas of focus. For example, despite providing free weekly collections of food waste, there remains a surprisingly high volume of food waste in the residual waste stream for both flats and households (see Section 4.3 and Appendix 6).

In addition, dashboard data from tools such as Power BI will be utilised to clearly map out further areas of focus. The data dashboard will be linked to the integrated collections software, to drill down into issues such as contamination.

Regular participation monitoring will also be undertaken throughout the city, in line with WLGAs Capturing Recycling- A guide to behavioural change strategy. The participation monitoring exercises will identify residents not taking part in recycling services, with appropriate interventions taking place with an education focus, moving into enforcement for continued non-participation without reasonable explanation.

The Council will continue to work closely with WRAP to support and promote the national 'Be Mighty Recycle' Campaign. In addition to the promotional materials, the campaign offers the opportunity to share data and identify best practice methodologies, as well as helping to identify target demographics.

Existing technologies will also be utilised to help the Council work smarter. In-cab devices are already utilised to log contaminated bins and bags. This data in turn is used to help target residents with letters advising them of which items need to go into which container. Where residents continue to present incorrect items, there is follow up with further education and ultimately enforcement (see Appendix 2 - The Pink Sticker Campaign).

The Council will continue to collaborate with other local authorities for recycling contracts of materials such as WEEE and textiles, whilst ensuring what is collected 'works harder' and provides the maximum recovery rates. Disposal/recycling contracts will be regularly reviewed

to ensure minimum recovery rates are being met (where stipulated) and benchmarking of neighbouring local authorities to identify if improved opportunities are available.

4.5 Reduce Single Use Plastics (SUPs)

The removal of single use plastics is a topical issue. In March 2019, the EU Parliament approved a new law banning single-use plastic items such as plates, cutlery, straws and cotton bud sticks. A ban on supplying plastic straws, stirrers and plastic-stemmed cotton buds came into force in England on Thursday 1 October 2020.

Welsh Government undertook a consultation on the ban of single use plastics between July and October 2020. If the proposals are implemented in Wales, a range of single use, hard to recycle and commonly littered plastic items, such as straws, cotton buds, polystyrene food and drinks containers would be banned, subject to any exemptions.

The One Planet Cardiff Strategy proposes a wide range of ambitious actions that will begin to form the basis of a delivery plan to achieve Carbon Neutrality. Within this, there is a commitment to reduce the Council's use of Single Use Plastics, and the Council is committed to developing and implementing an action plan for Single Use Plastics. The action plan for Cardiff will focus on the following:

1. Identifying all Single Use Plastics Purchased: This will involve a review of procurement processes with a view to avoid SUP's (unless there is a clear medical or other legitimate requirement) and understand the carbon impacts on the procurement process. This will include reviewing the provision of plastic sacks for Dried Mixed Recycling (DMR) and non recyclable waste. In 2021/22, 27 million single use plastic sacks were provided.
2. Promoting Reuse, Recycling of Plastics: Through both internal and external communications, the Council will encourage the recycling of plastic bottles as well as the reuse and prevention of single use plastics by promoting sustainable alternatives. This could include reusable coffee cups and water bottles, as well as other reusable item (carrier bags, straws etc). The national deposit return scheme agenda will be supported by responding in favour to consultations, as well as reviewing the opportunity for 'reverse vending' within our communities.
3. Promoting Refill: Cardiff is already working with Refill to support the concept of refill stations. Participating businesses display 'refill' stickers in their windows to let people know they offer free tap water and that there is no need to feel uncomfortable or embarrassed asking for it. Participating organisations also appear on the [Refill app](#), making the nearest Refill point easy to locate. Those who sign up to the app can refill their water bottles for free, and also earn points each time they refill to get a free gift to help towards a more 'refillable life'. There are currently over 10,000 Refill Stations across the UK. All of the Council's libraries/hubs have now registered with Refill and several of the high-street coffee shop chains are also registered with them. Where the water utility infrastructure is compatible the Council will seek funding with a view to installing refill stations in the city's hubs. We will also look to expand re-fill into the public realm, for example in parks, the City Centre and district shopping hubs.
4. Working with Partners: The Council has already undertaken a partnership arrangement with Keep Wales Tidy and Terracycle to remove, collect and recycle plastics from our waterways and bay area. The Council will commit to support, work with and promote like-minded campaigns to reduce the negative impacts of single use plastics. The Government's initiative to ban single use disposable cups from stadiums will be supported, and the idea of a re-useable 'Cardiff' cup in Cardiff's stadia will also be taken forward. Work will also take place with partners to identify regional solutions and to help support a circular economy in Wales.

5. Difficult Materials: The opportunity to recycle difficult materials such as car tyres, single use coffee cups; polystyrene mattresses etc will continue to be explored. The recycling of car tyres, carpets, UPVC window frames, hard plastics and mattresses is already in place at the Household Waste Recycling Centres. A polystyrene recycling trial has been undertaken, but due to the volume to weight ratio of the material, a viable recycling collection method is currently not available in the market place. Nonetheless, this opportunity will be kept under review. Options for coffee-pod recycling in partnership with Podback are currently being explored, as well as working with partners to recycle AHP (Absorbent Hygiene Products such as nappies).

4.6 Encourage the Prevention, Reuse and Repair of Materials

We will develop digital and smart solutions to improve resource efficiency by investigating the possibility of a 're-use' network within our buildings. The intention will be to encourage the re-use of office furniture and equipment. In addition, the Council is partners of Resource Efficiency Wales' repair network, to signpost residents to repair options.

The Beyond Recycling strategy states *'In order to move to a circular, low carbon economy we will need to reduce the amount of waste produced by households, businesses and the public sector so that unnecessary waste is prevented, products are re-used and repair and remanufacturing are a core part of our society'*

Through blanket communication campaigns and targeted outreach events the Council will provide advice to residents on what they can do to reduce waste in their homes. For example, utilising national campaign materials such as Love Food Hate Waste to promote the reduction of food waste. The re-use shop at Lamby Way Household Recycling Centre has also recently been launched to encourage residents to pass on items that still have life in them.

In addition to promoting waste reduction, reuse will be supported. The benefits of providing a real nappy incentive to residents will be investigated, utilising knowledge from other local authorities to develop a Cardiff real nappy scheme.

The partnership with Benthyc Cymru & Repair Café Wales will be continued to deliver mobile events across the city and remove any barriers to borrowing by providing home deliveries. In addition, opportunities to include new repair/re-use facilities within community regeneration schemes will be explored. Initiatives such as community fridges, food redistribution and community composting delivered through partnership with Llanrumney Hall and Green Squirrel will continue to be supported. Re-fill Cardiff will also be supported to expand their scheme across Cardiff, and to develop a digital 'zero waste' map to identify areas where residents can access re-fill, community borrowing, repair café and food redistribution opportunities across the city.

The Council also awaits the introduction of emerging legislation, such as Extended Producer Responsibility and Deposit Return Scheme. Whilst deposit return scheme will aid in encouraging users to recycle an item, it may bring about circular change in terms of encouraging re-use & refill of containers, for those who may not wish to pay a deposit on packaging material.

Extended producer responsibility will incentivise the design of packaging to making it easier to recycle. This is anticipated to further reduce the amount of 'hard to recycle' material currently within our waste streams.

4.7 Contribute Towards Developing a Circular Economy within Wales

Although Cardiff recognises the importance of increasing its recycling rates to meet statutory targets, it is important not lose sight of the wider national objective of One Planet, Zero Waste Wales by 2050.

Increasing participation and capturing priority material supports this objective. However, Cardiff will work to support the wider vision by actively prioritising messaging and actions around waste minimisation, re-use and repair, through businesses, residents and corporately through the Council own internal operations.

Much of the Council's corporate vision in this regard is outlined in the One Planet Cardiff Strategy. The actions outlined within section 5 are intrinsically linked to the majority of the 6 core themes set out in the Beyond Recycling strategy. There are a number of further actions the Council will take, such as continuing the partnership with other local authorities in the Anaerobic Digestion and Energy Recovery facilities, as well as the development of a solar panel farm at Lamby Way.

As stated in Beyond Recycling '*The Government cannot bring about the transition to a circular economy alone.*' It is understood that individual actions play a big part in this transition and the Council will work to empower everyone to make changes that suits them, appreciating the benefit that small changes can make.

The role of our community development co-ordinator will be expanded in line with the Caru Cymru initiative, to become involved with waste reduction, re-use and repair. This will enable the prevention of issues associated with poor Local Environmental Quality, including littering and fly-tipping.

The Council will work with young people to develop the waste strategy and tap into their enthusiasm. The existing 'Really Rubbish' campaign will be re-invigorated, and re-branded, to promote circular economy within schools. Work will continue with the Council's child friendly city teams in making young person's ideas a reality, through initiatives such as the expansion of Terracycle points throughout the city and the community mural at the Recycling Centre designed by children.

The Council will prioritise re-used materials in public sector purchases, by investigating the ability of setting up a re-use network within our buildings. The Council will also support all elements in the delivery of the litter prevention, and fly-tipping strategies, being a key partner of Caru Cymru and driving through community cohesion and behavioural change.

4.8 Action Plan and Key Dates

The three main actions anticipated to deliver the maximum increase in recycling performance are:

1. Improving the recycling performance of the Council's Trade waste service.
2. Expanding the residential recycling service to include new segregation streams.
3. Diverting recyclable materials from the residual waste stream.

As the above will involve significant changes, they are unlikely to be fully implemented until 2024-25. However, several steps will be taken before this date to incrementally increase Cardiff's recycling performance, and to lay the foundations for the planned changes. The changes will be made on a phased approach, based on local knowledge and data.

For example, in Quarter 3 2022, we will expand the separated recycling collection scheme into further areas. The expansion will involve the provision reusable sacks for the collection

of segregated recyclables, as well as a bespoke multi stream collection vehicle, where all material can be collected on the same collection vehicle. The detail from the expanded collection will help to inform the business case for city wide roll out of segregated recycling collections in 2024-25. Alongside the trial, we will continue to expand recycling services through the promotion of our AHP service, introduction of coffee pod, battery and small electrical item recycling and through the expansion of community based recycling facilities.

In relation to Trade Waste, we have already commenced the trial of segregated collections using a one-pass vehicle. Furthermore, the Trade Waste Team is working with both existing and new customers to encourage recycling over residual waste. As such, we hope to see some immediate improvements in trade waste recycling performance.

In addition to the above, several improvements have been implemented in 2021, which will help to immediately improve Cardiff's recycling performance. These include:

- Recycling of AHP waste
- Opening of a Reuse Shop at Lamby Way
- Working with Corporate Partners to ensure reuse and recycling of office furniture
- Segregation of cleansing waste to increase recycling

A summary of the main actions for implementation can be found in Appendix 5.

5. Working with Stakeholders to Deliver the Strategy

5.1 Working Together

Managing waste is not limited to the Local Authority, it is something that all residents and businesses in Cardiff contribute to, and therefore we all have a role to play in ensuring the city's waste is managed in a responsible way, for our own benefit and for that of generations to come. The city is at its best when we work together. Communication and consultation with relevant stakeholders is key, as is working with neighbouring authorities to identify best practice and regional solutions.

The recently opened Re-Use Shop at Lamby Way HWRC is a prime example of what can be achieved by working together. The shop has been introduced through working in partnership with Wastesavers to establish a convenient and environmentally friendly way to give items a new home, instead of disposal. The re-use shop will enable the resale of household items which in turn will benefit the city's recycling rate through waste minimisation. It will provide access to furniture and items for the community at low cost (with associated social benefit), and although likely modest in value, will generate income for re-investing into the service and into the community.

The Re-Use Shop at Lamby Way also provides a clear example of fulfilling the 5 ways of working, as set out in the Future Wellbeing of Generations Act, by thinking of long term prevention in terms of allowing accessibility to affordable goods, collaboration with other local authorities for benchmarking and Waste Savers for delivery.

The Council is also committed to the 'involvement' of local communities and key stakeholders when making decisions. Opportunities for feedback will be available to all throughout the duration of this strategy. The Council will continue to involve residents in the key decisions that need to be made on the journey towards 70% and a circular economy. Following on from the public consultation survey results (Appendix 7), focus groups will be held with key representatives from the community to consider how services can meet the needs of the 32% who felt that different options need to be considered for different areas.

5.2 Community Engagement

Working with residents and understanding the city's communities is integral to influencing better decisions, when seeking to continuously improve Council services.

The Council's Waste Management services work with a comprehensive network of passionate volunteers through the Love Where You Live Campaign. The volunteers and community groups understand the specific needs of their local community and make a considerable impact by offering advice and advocating appropriate Council services to their neighbours. The relationship with members of the community opens a dialogue with the Council, and provides an opportunity to identify need, map resource and plan future improvements.

Cardiff Council will continue to work together with community groups and volunteers to encourage residents to feel part of their community, engage with community activity and to feel empowered to help each other. In particular, the Council will seek to engage the local community in the Waste Strategy for Cardiff by:

- Working with partners and the community to facilitate the reuse and repair of items
- Providing recycling facilities at easier to reach locations for harder to recycle materials (e.g. facilities for recycling small domestic appliances at local hubs)
- Providing opportunities for community litter pickers to segregate materials for recycling

- Offering Schools a comprehensive recycling led service to further maximise recycling and to encourage recycling behaviours.
- Responding to qualitative feedback, for example through the implementation of focus groups, tracking comments on social media/neighbourhood conversations
- Working with schools and local businesses to empower them to:
 - promote behaviours that align with the waste hierarchy,
 - encourage the transfer of pro-environmental behaviours from home into the school or workplace environment

In addition, and in recognition of Cardiff citizens improving the city's recycling performance and reducing their carbon footprint, the Council will look to fund 'Love Where You Live' initiatives to improve the environment where people live; be it through community supported planters, child friendly play lanes, improvements to parks or maintaining unloved spaces. The aim is to have a City and planet loved by everyone.

5.3 Behavioural Change Strategies

There is an emerging shift in consumer culture and growing environmental awareness (*A Litter and Fly-Tipping Free Wales, Consultation Document WG41821*). Cardiff will need to harness this awareness, utilising the good will that is prevalent within some communities.

The Council will therefore develop communication, educational and behavioural change programmes that further enhance the measures already in place. Whilst blanket approaches have a place within the city, the Council will make use of all available data to undertake targeted campaigns, based on segmentation data identifying the most effective approach for the area.

As mentioned previously, we will link into toolkits and campaigns such as:

- WLGA's Capturing Recycling
- The Pink Sticker Campaign
- Love Food Hate Waste
- Be Mighty Recycle

The council will also make further use of hyper-localism through communications, for example 'Roath Recycles' to enhance community and locality-based benefits when it comes to sustainable waste management.

With regards to recycling, the focus will continue to be on education and behavioural change, with enforcement as a last resort. When all communication and engagement routes have been exhausted the Council will use the powers under S46 of the Environmental Protection Act 1990 to take enforcement action against residents who are not following policies for recycling. The Council will retain a zero-tolerance approach to other waste and littering offences such as fly-tipping (See Appendix 3: The Waste Education and Enforcement Strategy for further details).

To help address the challenges of changing behaviour in flats and rented accommodation, the Council will work closely with relevant partners, such as Rentsmart Wales to try to strengthen licensing conditions. In addition, the Council will work with landlord associations and letting agents to help distribute recycling messages and infrastructure to hard to reach groups.

Cardiff Council has committed to running a climate crisis behaviour change campaign and recycling will play a key part in this, due to the fact it is a meaningful area where everyone can contribute.

Each communications initiative and service change will be based on delivering value for money, and will seek to collaborate with surrounding authorities, and partners, to adopt best practice, as it exists.

6. Monitor, Measure and Review

6.1 Measure and Review

The Waste Strategy for Cardiff will be reviewed on an annual basis, to monitor progress against the action plan. Costs and progress towards waste and recycling targets will be monitored by Cabinet and the Environment Scrutiny Committee. As this is a multi-year strategy, with changes anticipated in the material markets, developments in technology and the ongoing development of Cardiff itself, the Waste Strategy will be reviewed every three years.

6.2 Post Service Change Review and Monitoring and Measurement

To understand the impact of any change of service, key metrics will be developed to monitor progress. This information will be captured and analysed by the waste and recycling team and reported to the relevant Cabinet Member, Cabinet and Scrutiny Committee. For each major service change, there will also be a review of service standards (see Appendix 4) to ensure the needs of customers are still being met whilst improving recycling performance.

6.3 Key Performance Indicators

The service has a number of Key Performance Indicators which underpin the work undertaken. These will continue to be used to monitor performance on a quarterly and annual basis. The Key Performance Indicators include:

- The percentage of municipal waste collected and prepared for re-use and/or recycled.
- The percentage of waste collected at recycling centres that has been prepared for re-use or recycled.
- The number of education and enforcement actions per month relating to improving recycling behaviour by citizens.

Appendices

- Appendix 1: Waste Strategy Gap Analysis
- Appendix 2: The Pink Sticker Campaign
- Appendix 3: The Waste Education and Enforcement Strategy 2021
- Appendix 4: Service Standards 2021
- Appendix 5: Action Plan Summary
- Appendix 6: WRAP Compositional Analysis Report 2021

Appendix 1 – Gap Analysis

Waste Management Strategy 2018-21, Gap analysis

Action	Delivered	Narrative	Outstanding actions to be brought forward
Piloting a separate glass waste collection service	Yes	Pilot a fortnightly collection of glass in a separate container.	Pilot completed for 15,000 properties and business case for further roll out to be developed during 2021-25 strategy.
Expand the Provision of the Wheeled Bin Service	Yes	Expand the wheeled bin service to a further 3,000 households	Completed.
Develop new recycling infrastructure and changes to HWRCs	Yes	<p>Develop education stations at HWRC to exceed 80% recycling.</p> <p>Deliver business case to support new HWRC in the North East of the City.</p>	<p>Education stations delivered. No unsorted black bag policy now in place. Introduced a reuse facility at Lamby Way HWRC in Partnership with Waste Savers.</p> <p>New booking system in place to better manage customer access and demand, and provide baseline statistics for business case.</p>

<p>Explore Options to Improve Efficiency and Customer Experience</p>	<p>Yes</p>	<p>Considering the collection of recycling and waste on Bank Holidays.</p> <p>Delivering a demand led compost collection service during the winter months.</p>	<p>Completed during Q4 2021- no longer collections on a Monday.</p> <p>Monthly service remains in place, demand based service to be explored during the 2021-25 Strategy.</p> <p>New services developed on digital channels Ordering recycling equipment Recycling A-Z Bulky waste collections HWRC bookings Missed collections</p>
<p>Education</p>	<p>Yes - ongoing</p>	<p>Provide targeted educational messages specific to areas.</p> <p>Work with partner organisations and support national campaigns. Use best practise research to deliver behaviour change campaigns.</p> <p>Continue with the 'Love Where You Live' and 'Really Rubbish' campaign.</p>	<p>Ongoing work to continue awareness raising amongst the community. Continue to fund the 'Love Where You Live', secure funding for additional support to broaden the remit of 'Love Where You Live' to include waste minimisation and reuse initiatives in the community.</p> <p>Welsh Water and Viridor providing education to community groups for their target waste streams.</p> <p>'Really Rubbish' to be re-branded and target green bag materials, and future changes to kerbside materials.</p>

Targeted Stakeholder Engagement & Communication	Yes - ongoing	<p>Continue to work in partnership with local universities and the third sector to deliver street scene and recycling improvements.</p> <p>Work with community leaders from Ethnic Communities to increase reuse and recycling.</p>	Ongoing support to the Student Liaison Officer role and support to the community through local groups, such as Environmental Champions.
Partnership working	Yes - ongoing	Explore community and charity partnerships to deliver longer term recycling and support the Welsh Circular Economy in Wales.	<p>Developed new recycling infrastructure for textiles at Hubs to facilitate community recycling.</p> <p>To be expanded further within the next strategy.</p>
New Markets for Recycled Waste	No	Explore new markets for recycling as they become viable.	<p>Absorbent Hygiene Products collected via the Hygiene service are now being recycled.</p> <p>We will continue to explore markets through the next strategy with organisations such as CLARE Wales.</p>
Single Use Plastics		<p>Reduce single use plastics by the Council and in supply chains.</p> <p>Work with partners to promote awareness of environmental damage caused by single use plastics.</p>	<p>Water Refill Stations supported through the 'Love Where You Live' campaign.</p> <p>Trial of reuse sacks to replace single use plastic sacks.</p>

		Continue to work with Welsh Water to deliver water refill stations. Continue to promote the environmental benefits of plastics recycling.	Ceased provision of red and white striped bags.
Alternative fuel mediums	Yes - ongoing	Explore alternative fuel mediums – such as electric vehicles for the HGV fleet.	A number of electric vehicles are now within the Council's fleet of vehicles, including RCV's and cleansing vehicles.
Enforcement	Yes - ongoing	Adopt 'zero tolerance' approach to environmental crime. Update and revise environmental crime policies around fly tipping, public protection and littering.	A zero tolerance approach is in place for Enforcement. Fixed Penalty Notices (FPNs) now in place for fly tipping (£400) and householder Duty of Care (£300).
Kerbside collection policy	Ongoing	Ensure the Council's Technically, Environmentally and Economically Practicable (TEEP) position is re-tested against the Recycling and Environment Regulations to ensure maximum cost effective recycling.	Work is ongoing with WRAP and WG to deliver the most sustainable kerbside collection for Cardiff. Since the last strategy, separate glass collections have been trailed and will be expanded. Reducing contamination has been a priority since the last strategy with a view to increase the quality of materials collected at the kerbside. This has been developed through the 'Pink Sticker' campaign.
Domestic collections, including bulky and hygiene collections	Yes	Explore the need for re-zoning collection days.	Collection days were re-zoned during Q4 of 2021 and included: - Increased round efficiency

			<ul style="list-style-type: none"> - Removal of double shift resulting in better opportunities for vehicle maintenance <p>Bulky waste collections can now be booked in via the Cardiff.gov app.</p>
Bring Sites	Yes	Explore the benefits of new bring sites where demand has been identified.	<p>The need for bring sites is continually reviewed, no new sites delivered during the period.</p> <p>Facilities are being trailed at community hubs e.g textiles, look to expand further during next strategy.</p> <p>A mobile pop-up recycling centre has been trialled and has proven popular.</p>
Deposit Return Schemes	No	We will work with industry and Welsh Government to contribute to the development of schemes.	No new schemes have been developed through the period of the strategy, although Cardiff has responded in favour to the recently published consultation.
'On the move' recycling and fly-tipping	Yes	<p>Work with WG on their national behaviour change campaigns to deliver new recycling litter bins in high footfall areas.</p> <p>Explore the use of 'nudge' theory to influence people's habits.</p>	<p>Community Development Officer post created to drive the initiative.</p> <p>Funding secured for split transit vehicles to segregate recycled waste collected during litter picking.</p>

		Facilitate recycling from community litter picks. Increase support for 'Love Where You Live'.	Aperture recycling litter bins procured in areas of high footfall and being used in areas such as parks during spring/summer.
Street Sweepings	Yes-ongoing	Remove litter from collected sweepings to ensure non-target material is removed from the recycling process.	Mechanical sweepings are sent to de-watering facilities where non-target materials are removed, resulting in an end product that is recycled.
Commercial services	Ongoing	Undertake targeted recycling campaigns for SMEs, and evaluate their effectiveness to encourage other businesses to reuse and recycle as much as possible. Expand the skip service to provide targeted material options.	Mixed skips were post-sorted with 60% recovery rate. Single stream recycling skips now provided. Created new stand alone website with new branding to raise profile of the service. Collections model will need to be reviewed in line with the Business Waste Regs. Trials took place in 2021, with a view to expand the service in 2022.
Waste Transfer and Secondary Sorting	No	Use secondary sorting to extract recyclables that have been disposed of incorrectly to achieve higher recycling rates.	Tender being prepared for limited amount of secondary sorting. Preferred option is separation at source in line with Circular Economy approach.
Disposal & Landfill Aftercare	Yes	Observe statutory requirements to protect and care for the Landfill site at Lamby Way and explore end of use options for the site.	Management of the closed landfill is ongoing. 42 acres of the closed landfill is now in use as a solar farm generating 8.99 MW/year.

Appendix 2: The Pink Sticker Campaign

The Pink Sticker Campaign aims to improve the quality of recycling and composting collected from the kerbside by Cardiff Council – helping the city become one of the best recycling cities in the world. It is an education focused campaign, to let residents know they've done something wrong and to improve the quality of material. There is support available from recycling officers, to help residents understand, as well as a series of education letters being provided. Enforcement is a last step, for persistent incorrect usage despite support being provided.

Figures released by the council show that 18% of the materials presented in green bags are not actually suitable for recycling and hamper the recycling process. An additional 12% of material is lost or ruined within the process, meaning that 30% of the material presented in green bags is contaminated. The main offenders are dirty nappies, clothes, packaging and food waste.

There are kerbside collection services available for nappies and food waste, with alternative provisions available locally and at the Household Recycling Centres to recycle textiles.

Green recycling bags are for the recycling of dry, clean household packaging such as glass bottles and jars, plastic bottles/tubs/trays, tin cans and aerosols, paper such as magazines/letter paper and flat packed, small amounts of cardboard. We also need residents to rinse out their cans, tins and glass before they recycle them. It will all help to make Cardiff one of the world's best cities for recycling and that's something we can all be proud of.

Green garden waste is also being presented with incorrect materials such as watering cans, cardboard, and garden furniture. Processing contamination from green waste cost over £95,000 in 2020/21. For the garden waste, we only want grass, tree or shrub cuttings. These are the only items that should be put in the green-wheelie bins/reusable sacks.

Processing contamination from both green recycling bags, and garden waste, is costly but also negatively impacts the City's recycling performance.

The scheme involves bright pink stickers being placed on recycling bags, food caddies and garden waste bins (or sacks in bag areas) alerting residents that they contain incorrect items. If a pink sticker is put onto a container, residents will have to take their waste back into their property to remove the incorrect items before they put their recycling out again on the next collection date.

If people see pink, we want them to stop and think. We are also encouraging the message that if in doubt, leave it out. We know that residents want to recycle as much as possible, as people become more eco-conscious. This can result in residents putting items in the hope that they will be recycled. However, this desire, known as aspirational recycling or 'wish cycling' can cause problems in the recycling process, and ruin the quality of the material.

The pink stickers will point residents to a website, which gives an 'A-Z of recyclables' so they can familiarise themselves with what items should be put in the containers provided. In addition, there is also a new contact us form where residents can request advice on any additional materials they are unsure of.

The 'See Pink, Stop and think' campaign briefly consists of the following stages:

- **Pink sticker applied, to let residents know they've done something wrong. A record is also made within the collection team's in-cab device**
- **A series of education letters sent to properties, each time contamination is identified, providing information and signposting to support available.**
- **When education has been provided on a number of occasions or as part of an area/street wide campaign, a Section 46 Notice may be issued. This is a legal letter to notify how residents should present their recycling and waste for collection.**
- **Where a property is under a Section 46 Notice, and recycling and waste is presented incorrectly, a £100 Fixed Penalty Notice will be issued.**

In addition to the above processes, further education may be provided including full street letters, outreach, face to face engagement with residents through door knocking, or attendance at community events. Recycling officers are also on hand to provide advice via any means possible.

It is important to emphasise that this campaign and the stages outlined only apply to residents putting the wrong materials in their recycling and composting. For all other environmental offences, such as littering, fly tipping, flyposting, as well as others, waste enforcement will operate as usual on a zero tolerance approach.

If a resident ignores the pink sticker and leaves their waste out on the street, they could face an immediate £100 fixed penalty notice for littering.

Street Scene Education and Enforcement Policy



September 2022

Version 1.0

Contents

1	Policy, Aims and Objectives	3
1.1	Purpose of the Policy	3
1.2	Organisational Approach	3
1.3	Associated Polices, Plans and Strategies	4
2	Delivering Education and Enforcement	4
2.1	Good Practice Education and Enforcement.....	4
3	The Street Scene Education and Enforcement Team	5
3.1	Recycling Education and Incorrect Waste Presentation.....	5
3.2	Waste accumulations in frontages	6
3.3	Commercial Waste Enforcement.....	7
3.4	Fly-tipping and Local Environmental Quality (LEQ) Enforcement	7
3.5	High Hedges	8
3.6	Highways Enforcement	Error! Bookmark not defined.
4	Education and Enforcement Actions	9
4.1	Promotion and Education	9
4.2	No Action (No evidence found).....	9
4.3	Informal Action	9
4.4	Simple Caution	10
4.5	Formal Caution.....	10
4.6	Formal Action.....	11
4.7	Fixed Penalty Notices (FPN’s).....	14
5	Single Justice Procedure (SJP) and the Magistrates Court.....	15
5.1	Magistrates Court	15
6.	Complaints and Disputes	16
6.1	Appeals.....	16
6.2	Complaints	16
6.3	Formal Review.....	16
	Appendices.....	18
	Appendix 1 – Enforceable Offences.....	18
	Appendix 2 - Enforcement Concordat	22
	Appendix 3 - Community Protection Notices	24
	Appendix 4 - Public Space Protection Orders (PSPO)	26

1 Policy, Aims and Objectives

1.1 Purpose of the Policy

The Neighbourhood Services team is part of the Waste Management Service, reporting to the Assistant Director for Street Scene. Within the Neighbourhood Services team, there are a range of officers trained to search and remove waste, as well as a team of officers with powers to take enforcement action for a wide range of environmental offences. This policy sets out the role of the Neighbourhood Services team within the Directorate, along with the powers adopted in order to tackle environmental crime.

The specific aims and objectives of this policy are to:

- Provide a clear overview of Neighbourhood Services Education and Enforcement.
- Outline the various offences that Neighbourhood Services Officers tackle.
- Outline the relevant legislation, policies and procedures under which the team operate.

The policy also incorporates the Regulator's Compliance Code issued by the Department of Business Enterprise and Regulatory Reform, which became effective on 6th April 2008. This Code requires local authorities to have regard to it when they take enforcement action in certain areas.¹

Specific details of the relevant legislation applying to each offence can be found in Appendix 1.

1.2 Organisational Approach

Cardiff Council is committed to the principles laid out in the Government's Enforcement Concordat (see Appendix 2). This means the Council will support and persuade people to change their behaviour through information, education and advice, but will not hesitate to take enforcement action such as issuing Fixed Penalty Notices or prosecuting when appropriate. This will send a clear message to those individuals or businesses who continue to spoil the environment.

Most enforcement activity takes place on the public highway, but it can be undertaken anywhere where there is evidence of an offence.

The Education Enforcement Team work in accordance with the Council's standards of customer care and equality.

This means that the officers will:

- Provide information regarding the service delivered when asked;

¹ This includes action under the Control of Pollution (Amendment) Act 1989, Environmental Protection Act 1990 and Clean Neighbourhoods and Environment Act 2005.

- Treat all people fairly and offer equal opportunity for service delivery regardless of their ethnic background, religion, sex, sexual orientation, age or physical ability;
- Treat people in a courteous and respectful manner and
- Promptly respond to reports of incidents and requests for service and enquiries.

In the course of undertaking enforcement activities, officers may sometimes encounter vulnerable people who have committed an offence. For example, someone who is homeless or has a mental health condition. In such circumstances a standard enforcement approach might not be appropriate or in the public interest. Therefore, each case involving a vulnerable person will be carefully assessed, in conjunction with the relevant Council service area, to establish the best course of action.

1.3 Associated Polices, Plans and Strategies

The following polices guide the day-to-day management of the Street Scene Education and Enforcement Team:

- Capital Ambition
- Corporate Plan
- Recycling Waste Strategy

The Street Scene Education and Enforcement Team play an important role in the delivering some of the priorities set out in each document. These priorities include:

- Creating a cleaner city.
- Supporting residents to take greater responsibility for the cleanliness of their local communities.
- Tackling environmental crime that detrimentally affects the local environmental quality of our communities.
- Applying a zero-tolerance approach to fly-tipping and littering offences.

In order to carry out these functions, the team must use relevant legislation, whilst also adhering to good practice.

2 Delivering Education and Enforcement

2.1 Good Practice Education and Enforcement

The primary objective of this policy is to achieve a consistent and effective environmental quality through targeted education and enforcement action where required within Cardiff. This ensures the protection and safety of the public is maintained.

The aim is to secure efficient compliance with legislation whilst minimising the burden to the Council, individuals, organisations and businesses. It will be applied, as far as reasonably practicable and applicable to all enforcement situations, and it explains in general terms the approach adopted by the Council when carrying out the Council's education and enforcement duties.

In seeking to achieve these aims and objectives, Cardiff Council will ensure all education and enforcement activities are:

- undertaken in accordance with the principles of ‘good enforcement’ specified by the Enforcement Concordat;
- compatible with the convention rights specified by the human Rights Act 1998 to protect the rights of the individual;
- managed in an efficient manner;
- taken promptly and without unnecessary delay;
- undertaken in a fair independent and transparent manner with each case being considered on its own merits;
- not influenced by colour, ethnic origin, race, gender, disability, sexual orientation, gender re-assignment, religion, marital status, gender, age or political beliefs or by improper or undue pressure from any source;
- aligned to the Business Plan and Corporate Plan and capital ambition;
- appropriate and proportional to the problem;
- evidential and in the public interest in the Code for Crown Prosecutors
- helpful to both householders and businesses meet their obligations by providing advice and information;
- in place to take firm action against those who disregard the law; and
- complaint with the principles in the Regulations Compliance Code (for certain functions identified by the legislative and Regulatory Functions Act).

3 The Neighbourhood Services Education and Enforcement Team

This section sets out the current range of activities undertaken by the Enforcement Team. Primary activities include:

- Incorrect Waste Presentation
- Recycling Education
- Waste In Frontages
- Commercial Waste
- Fly-tipping and Local Environmental Quality
- High Hedges

3.1 Incorrect Waste Presentation

The Council has a statutory duty to keep the streets of Cardiff at an acceptable level of cleanliness. Each year, all local authorities in Wales - along with Keep Wales Tidy - need to carry out street cleanliness surveys. All surveys follow the same method (LEAMS Surveys), and the data is used to calculate Wales’ Performance Indicator for

Streetscene, which is used to measure how local authorities are doing in fulfilling their legal duties to keep the streets clean.

Whilst prompt removal of incorrectly presented waste is important to prevent littering, it is also paramount that the incorrect behaviour is addressed, to prevent recurring issues.

3.2 Recycling Education

Each Local Authority in Wales must achieve the Welsh Government recycling performance target of 70% by 2024/25. In order to achieve this there is a focus to increase recycling in a sustainable manner. If a Local Authority does not meet recycling performance targets, it may result in the levying of a substantial financial penalty by Welsh Government.

The Education and Enforcement team are essential to helping the Council achieve statutory recycling targets. The Education and Enforcement team provide advice and information to residents on how to present their household recycling and waste in order to change behaviour. If households continue to store or present their waste and recycling incorrectly – despite having received advice and information - enforcement action will take place. To instil long-term behavioural change the education enforcement team work towards a three-tiered approach.

1. Education, Engagement and Monitoring
2. Investigation / Enquiries
3. Formal Enforcement
 - a. Warning Notice (under s.46 of the Environmental Protection Act)
 - b. Prosecution or Fixed Penalty Notice (FPN), where applicable

Offences tackled using this approach include:

- Waste presented in the wrong container
- Waste presented on the wrong day/week
- Bins left on the highway

Note: This three-tiered approach does not apply to zero tolerance offences such as:

- *Commercial waste duty of care (see below)*
- *LEQ Offences and Fly-tipping (see below)*

3.3 Waste accumulations in frontages

Waste accumulations can occur in both frontages and gardens. Most commonly, they arise in linked properties with small frontages. The process for tackling waste accumulations can take several weeks to complete.

Firstly, officers must issue an intention to serve notice, under S.16 of the Local Government (Miscellaneous Provisions) Act 1976. The Notice requires the landowner to remove waste accumulation that is deemed to be detrimental to the Local Environmental Quality within 7 days. Failure to comply with the requirements of the Notice, without reasonable excuse, will result in FORMAL notice to execute works. This can be done under either S.215 of the Town and Country Planning Act 1990 or S.4 of the Prevention of Damage by Pests Act 1949.

In the case of a s.215 notice, the landowner must remove waste accumulation that is deemed to be detrimental to the Local Environmental Quality within 28 days. Failure to comply with the requirements of the Notice, without reasonable excuse, will result in prosecution. A Works in Default will be applied to the land (whereby officers remove the waste) and subsequent charges will be added as part of the prosecution.

A S.4 Notice can be used as an alternative to the s.215 pests are found to be present on land. In the case of a s.4, a “reasonable period” must be specified in the notice allowing time to comply with the necessary works following inspection. Failure to comply with the requirements of the Notice, without reasonable excuse, will result in prosecution. A Works in Default will be applied to the land and subsequent charges will be added as disclosure as part of the prosecution.

In addition to the above, officers have the authority to issue a Statutory Nuisance notice under S80 of the Environmental Protection Act 1990. The abatement notice is issued when an authorised officer is satisfied that a statutory nuisance exists; the accumulations are persistent and becoming a nuisance. The abatement notice instructs the landowner to execute works and take necessary steps to stop the problem re-occurring in the future.

The adoption of Community Protection Notices (see Appendix 3) will help to strengthen the teams enforcement powers in this area.

3.4 Trade Waste Enforcement

The Education and Enforcement team are responsible for ensuring the correct management of waste by both domestic and commercial properties. Action can be taken in relation to commercial waste where:

a) businesses fail their waste ‘duty of care’ by avoiding payment of commercial waste collection and disposal charges (s.34(5) of the Environmental Protection Act). Where businesses are unable to produce a Waste Transfer Note to prove that they have appropriate waste disposal arrangements in place, officers can issue a Fixed Penalty of £300.

b) where waste is presented incorrectly (s.47 of the Environmental Protection Act). Officers are able to issue section 47 notices to businesses at any time to set out the requirements of the service. Under the provisions of the Environmental Protection Act 1990, following receipt of this Notice the businesses will be required by law to comply with the arrangements for placing their waste out for collection. A Notice has no true end date, as long as the business rate payer / LTD company remains the same.

A person/business who fails, without reasonable excuse, to comply with the requirements of this Notice shall be liable on summary conviction to a fine not exceeding £1,000 and a criminal record. Cardiff Council may alternatively offer the opportunity of discharging any liability to conviction for an offence by payment of a Fixed Penalty of £100.

3.5 Fly-tipping and Local Environmental Quality (LEQ) Enforcement

Tackling fly-tipping is a corporate priority in Capital Ambition. Local Authorities and Natural Resources Wales have powers under the environmental Protection Act 1990 to

investigate fly-tipping incidents and to prosecute those who are found to have broken the law. In 2018, we adopted the powers under the Unauthorised Deposit of Waste (Fixed Penalties) (Wales) Regulations 2017, enabling us to issue £400 FPN's for small scale fly-tipping. Large-scale fly-tipping must still be dealt with via prosecution. However, the Single Justice Procedure is now in place and seeks to expedite the legal process around certain offences (see Section 5).

The team continue to implement a zero tolerance approach to all Local Environmental Quality offences, such as litter, dog fouling, fly posting and fly tipping. These environmental issues can seriously blight a neighbourhood, increasing people's fear of crime and lowering their quality of life. The team ensure compliance with regulations in order to keep the streets clean and safe to achieve a more attractive city. The adoption of PSPO's (see Appendix 4) will further strengthen the teams abilities to tackle issues such as dog fouling.

3.6 High Hedges

Part 8 of the Anti-social Behaviour Act 2003 allows local councils to deal with complaints about high hedges. When councils are determining a complaint, they must first decide whether the height of the high hedge is having an adverse effect on a neighbors' enjoyment of their home and/or its garden or yard. If it is, then councils can order the owner of a high hedge to take action to put right the problem and stop it from happening again.

The legislation also allows councils to set and charge fees for handling these complaints. Historically, the power to take action in relation to high hedges rested with shared regulatory services, but it has now been adopted by the Street Scene department.

4 Education and Enforcement Actions

4.1 Promotion and Education

It is important to raise awareness about legal standards and promote good practice. Education is paramount and is key to changing the behaviour of residents and visitors to Cardiff about how to manage their waste correctly. Promotion is through press releases, briefings, website, outreach, advertisements, forums, leaflets and other forms of written guidance available to the public and businesses, and by face-to-face contact.

4.2 No Action (No evidence found)

This is when an investigation reveals at the time of the visit an offence has occurred but the identification of the offender cannot be determined. Contemporaneous notes and photographs will be input to the case for record purposes and monitoring will be undertaken.

4.3 Informal Action

Informal Action will be used to reinforce promotional activities and instances where, although the law may have been broken, there are mitigating circumstances and it would not be in the public interest to formalise proceedings or, it was not thought appropriate to take any further action. Confirmation of the informal action is made in writing.

When an informal approach is used, officers will ensure written documentation provided must:

- Contain all information necessary to identify the breach of legislation
- Indicate specific legislation contravened
- Clearly indicate any recommendations of good practice and to explain that they are not legal requirements

Informal action will take place where:

- The act or omission is not serious enough to warrant formal action;
- Past history indicates that it can reasonably be expected that informal action will achieve compliance;
- Confidence in the individual or company's management is high;
- The consequences of non-compliance will not pose a risk to public health or present unacceptable advantage to business operations or cause the public to lose confidence in the Council.

Informal action will **NOT** be considered when:

- Residents are already under a S46 Notice EPA 1990,
- Residents / visitors are contributing to littering under S87 of the EPA 1990 for;
 - heavily contaminating the recycling bag
 - using the recycling bag to contain general waste (domestic)
 - Failing to return the bag to the property after non-collection to take necessary action to dispose of waste in accordance with recycling scheme.

- Businesses are using the recycling bag for commercial waste service.

Where education or promotion is widely available (website / signage), offenders claiming ignorance of the law should not expect to be given a second chance before enforcement action is taken.

4.4 Simple Caution

A simple caution is a formal notice. A simple caution may only be considered where a prosecution could properly be brought; i.e. the case meets the standard required by the evidential stage. As a result, the existing procedures for considering a prosecution should be followed. A clear and reliable admission of the offence must be obtained before a simple caution can be considered. The mitigation provided meets the standard required at determination stage.

4.5 Formal Caution

A person should only receive one formal caution; and this caution lasts for 5 years. If the person subsequently commits a similar offence within 5 years, the case should proceed straight to prosecution and the original caution will be cited at Court.

The purposes of formal cautions are:

- To deal quickly and simply with less serious offenders.
- To avoid unnecessary appearance in criminal courts.
- To reduce the chance of offenders re-offending.

Before issuing a formal caution, which will usually be administered by letter, the following conditions must be satisfied:

- There must be evidence of guilt sufficient to give a realistic prospect of conviction.
- All issuing of all formal cautions will be in accordance with Council procedures.
- The suspected offender must have already admitted the offence during the investigation
- The suspected offender must understand the significance of a formal caution and give an informal consent to the caution.
- Should an offender not accept the offer of a formal caution, the team will recommend to the Authority's Legal Department to prosecute.

The Education Enforcement Team will only consider Simple Cautions or Formal Cautions / Warnings in the below circumstances:

- S34 of Environmental Protection Act 1980 - Duty of care (admission of guilt with mitigation)
 - Providing advice to trade waste producers about how to comply with their "Duty of Care" to manage their waste responsibly where there has been an admission of guilt and mitigation provided meets the standard required at determination stage.

- Providing advice to residents about how to make thorough checks when disposing of waste to a third party ;Waste Carrier licence checks, receipts in form of waste transfer notes for the safe transfer of waste, where there has been an admission of guilt and mitigation provided meets the standard required at determination stage.
- S43 of the Anti Social Behaviour, Crime and Policing Act 2014 - Community Protection Notice
 - A formal written warning will be issued if the officer considers that they are responsible for the unreasonable behaviour which is persistent and/or continuing in nature and is having a detrimental impact on the quality of life of others.

4.6 Formal Action

If appropriate, the authorised Officers will consider the application of formal enforcement action that can comprise one of the following alternatives.

- Formal warning
- Requests for information under caution
- Formal Notice Statutory Notices or other relevant enforcement action
- Prosecution

4.6.1 Formal warning

To reiterate education is not required to secure a successful prosecution and where education has been provided, offenders claiming ignorance of the law should not expect to be given a second chance before enforcement action is taken.

Formal warnings only applies in the below circumstances:

- Community Protection Notice - A formal written warning will be issued *Pursuant to S43 of the Anti Social Behaviour, Crime and Policing Act 2014*
 - If the officer considers that they are responsible for the unreasonable behaviour which is persistent and/or continuing in nature and is having a detrimental impact on the quality of life of others. The letter should be considered as formal notification for them to stop behaving in this manner and to put these problems right to avoid further consequence. Actions to take and timescales will be set.
- Repeatedly presenting incorrect recyclable waste in green bags as part of the behavioural change campaign.
 - A FORMAL WARNING Letter with formal instructions on how to present recycling waste.
 - Failure to adhere to this warning will result in a formal S46 Notice EPA 1990

As per Informal Action a warning or caution will **NOT** be considered when:

- Residents are already under a S46 Notice EPA 1990,
- Residents / visitors are contributing to littering under S87 of the EPA 1990 for;
 - heavily contaminating the recycling bag
 - using the recycling bag to contain general waste (domestic)

- Failing to return the bag to the property after non-collection to take necessary action to dispose of waste in accordance with recycling scheme.
- Businesses are using the recycling bag for commercial waste service.

4.6.2 Requests for information under caution

Where evidence is obtained and further investigations are to be conducted the authorised officer will request for further information using relevant legislation to the offence committed and/ or S16 The Local Government (Miscellaneous Provisions) Act 1976 and Data Protection Act 1998. This request will be made in writing in the following ways:

- enquiry form,
- request for information notice
- formal invite to interview under caution (PACE).

This applies predominantly in the below circumstances:

- S87 EPA 1990:
 - Standard Domestic Waste Enquiry – bagged waste deposited contributing to littering
 - Littering – standard enquiry to registered keeper for litter thrown from a vehicle
- S34 EPA 1990:
 - Standard Commercial request for Waste Transfer Note date specific (up to 2 years)
 - Standard Commercial request for Waste Transfer Note - bagged waste deposited.
 - House hold waste duty of care contributing to Fly tipping - Interview under caution (PACE)
- S33 EPA 1990
 - Fly tipping - Interview under caution (PACE)

4.6.3 Formal Notices, Statutory Notices or other relevant enforcement action

Although it is intended to prosecute, effective action needs to be taken to remedy conditions as quickly as possible. In general, failure to comply with a written and served statutory notice makes the recipient liable to prosecution.

In some cases the Council is able to carry out works to comply with the notice and recover the costs of doing so from the recipient of the notice. Such case will be considered on an individual basis and works in default may be carried out. In certain circumstances it is possible to prosecute as well as serve a notice: failure to comply with the notice would be an additional offence.

Will be considered where:

- There are significant contraventions of legislation;

- There is a lack of confidence that the individual or company will respond to an 'informal' approach;
- There is a history of 'non-compliance';
- The consequences of 'non compliance' posing a serious risk to public health, or creates a significant advantage to a business operator;

4.6.4 Prosecution

Prosecution will be progressed where there has been blatant disregard of the law, or a refusal to achieve even the basic legal minimum requirements. The relevant Officer will consider referring a case for prosecution when:

- It is appropriate in the circumstances, as a way to draw attention to the need for compliance with the law and the maintenance of standards required by law, especially where there would be a normal expectation that a prosecution would be taken, or where, through the conviction of offenders, others may be deterred from similar failures to comply with the law;
- Where there is the potential for considerable harm arising from the breach;
- The gravity of the offence, taken together with the general record and approach of the offender warrants it.

The decision to prosecute will always take account of the criteria set down in the Code for Crown Prosecutors. Before deciding to prosecute, there must be sufficient evidence for a realistic prospect of conviction, taking account of any defence that may be available, and it must be in the public interest.

The following public interest criteria will normally be taken into account when deciding on the relevance of legal proceedings, although this list is not exhaustive:

- The prevalence of the type of offence; and whether the offence involves a flagrant breach of the law such that public health and safety or well being is or has been put at risk, or where unacceptable business advantage is gained;
- The need for a suitable deterrent;
- The risk of danger or injury to the public;
- The failure to comply with a statutory notice or respond to advice about legal requirements;
- The disregard of legal requirements for financial reward;
- Significant financial loss, potential or actual, to a third party;
- Whether the investigation was the result of a complaint by a third party;
- A history of similar offences;
- Persistent breaches of legislation;
- Where fraud, gross negligence or guilty knowledge is a factor, and
- Minor breaches of a number of statutes.
- The alleged offender has failed to correctly identify the potential risk after being given ample opportunity to comply with legal requirements of an authorised officer;
- The evidence has been evaluated in accordance with the Code for Crown Prosecutors and there is a realistic prospect of conviction

- Relevant, admissible, substantial and reliable prospect evidence is available that an offence has been committed;
- It is in the public interest to prosecute.

Where possible, an offender will be told as soon as sufficient evidence is obtained that a prosecution may follow and a written Summons will be sent to the defendant. Where appropriate a prosecution will be commenced without prior warning and will be brought without unnecessary delay.

Once the decision to refer a case for Prosecution has been made by the relevant Officer, a case file will be submitted either via Single Justice Procedure or via Legal Services.

4.7 Fixed Penalty Notices (FPN's)

A fixed penalty notice offers the ability to discharge any liability to prosecution for the criminal offence; in respect of specified offences, with payment of the fixed penalty.

This should be paid no later than 14 days of the date on the penalty letter.

FPN's may only be served by authorised Officers. Officers will not issue a fixed penalty notice unless:

- The offence justifies prosecution;
- There is believed to be sufficient evidence to enable follow up proceedings should the offender not pay the charge within the stated payment period; and
- It will act as a sufficient deterrent against re-offending.

In all fixed penalty cases Cardiff Council can prove beyond reasonable doubt that an offence has been committed and intend to prosecute. All FPNS will be issued in accordance with the guidance issued by the Welsh Government. The following circumstances are likely to warrant the use of an FPN:

- 1) The offence of failing to comply with the requirements of a Notice.
- 2) Where an Officer believes there are "reasonable grounds" to consider an offence has been committed, and
- 3) Where there is a suitable witness or witnesses to the offence and the offender can be clearly identified.
- 4) The evidence gathered by an authorised officer proves beyond reasonable doubt that the offence has been committed.

If the penalty is paid within this time frame no further enforcement action will be taken. If a fixed penalty is not paid within the prescribed period, legal proceedings will be considered and the offender will be prosecuted. At this stage, and only at this stage, the defendant can provide mitigation to the offence.

5 Single Justice Procedure (SJP) and the Magistrates Court

The Single Justice Procedure (SJP) is part of the government strategy to transform summary justice to:

- Make it simpler, faster and more proportionate and
- Ensure that the best use of magistrate court time is made so that they can focus on cases which have the biggest impact on their communities

The SJP requires:

- A procedural Notice to be served on the Defendant, with the Supporting documents:
 - 1) Statement of offence referring to exhibits
 - 2) Certificate of service
 - 3) Single justice procedure means form
- The notice will tell you who has brought the case against you (Cardiff Council), the offence, how to make a plea, and if you can make a plea online.
- The defendant has 21 day to respond to the notice.
 - Alternatively the defendant has 21 days to pay the original FPN and case costs (Administration Payment Fee) to discharge liability for prosecution.
- The response would need to plead either guilty or not guilty.
 - Plead guilty - the magistrate will make a decision based on the information they have. The defendant will get a letter with the magistrate's decision.
 - Plead not guilty – the defendant will have to go to court and give information to the magistrates in person. The defendant will get a letter telling them when to go to court.
 - If you do not respond to the single justice procedure notice within 21 days, the magistrate will make a decision about your case without your say. This could mean that if you are found guilty and sentenced, there will be no reduced sentence for a guilty plea. Your fine or penalty points may also be higher. Money may be taken from your pay or benefits.
- Should help be required with the defendants notice they can get legal advice or free advice from Citizens Advice.

If a guilty plea is received, or a conviction is made by a single justice procedure following no response from the Defendant, the single justice procedure is able to impose a financial penalty or impose an order of absolute or conditional discharge.

5.1 Magistrates Court

If no guilty plea is received the case file will be submitted to Legal Services. Legal Services will consider the entire case and if they agree that the case is suitable for Prosecution, they will then exercise the delegated power of the City and County Solicitor to lay any information at Cardiff Magistrates Court.

6. Complaints and Disputes

6.1 Appeals

There is no right of appeal to the Council for Fixed Penalty Notices issued under Environmental or Highway legislation.

There is no appeals process as it is a criminal offence with a penalty notice. It is not a civil offence, such as parking, which imposes a fine and provides an appeals process. The opportunity to disagree would be through the Magistrates Court. The matter will be referred to the Magistrates' Court should the fixed penalty remain unpaid, or should instructions be made by the offender to Cardiff Council to do so.

Any enquiries or disputes regarding fixed penalties will not be progressed as part of Cardiff Council's Corporate Complaint Procedure or The Public Services Ombudsman for Wales.

6.2 Complaints

The service accepts complaints relating aspects outside of the issuing of a Fixed Penalty Notice, such as the behaviour of Officers. These complaints will follow the Complaints Policy but will not have any influence on the Fixed Penalty Notice.

6.3 Formal Review

An Elected Member may make a request for a formal review of a concern to the Corporate Director, Director or Assistant Director managing the service.

The request can only be made in the below circumstances:

- Requests made on behalf of a person who is a vulnerable adult
- Documentation is provided in relation to condition which directly affects capacity to progress the case; such as mental health condition or the capacity of the individual to understand.

The outcome of the formal review will be a decision as to whether to proceed with the case or take reasonable measures to provide additional support.

Examples of support services are:

- Additional waste capacity assessments: this allows an increased level of general, non-recyclable waste to be presented for collection on the understanding residents are unable to separate their waste for recycling
- Home educational visits: information for residents in a preferable, easy to understand format. For example, audio recordings or easy read documents for residents.
- Registered collection service: our collection crews will enter the front boundary of a property to collect recycling and waste. This alleviates residents' concerns that they are going to put recycling or waste out on the incorrect day
- A visit by the independent support living team: the team visit vulnerable residents at their properties to provide varying levels of support. This team have direct contact with waste management and are able to request support on their client's

Appendix 3 – Education and Enforcement Policy

behalf. If any of these services are not appropriate, we will make every attempt to offer some form of reasonable adjustment to the scheme.

Appendices

Appendix 1 – Enforceable Offences

This appendix is a list of the main enforceable offences utilised by Cardiff Council. The list is not a defined list and enforcement of further offences may be take place depending on circumstances and delegated authority.

Enforcement type	Legislation / ACT	Section	What this enforces	Failure to comply with notice may lead to prosecution / works in default / FPN / Charge.
Waste Presentation Domestic	Environmental Protection Act 1990	S46 Notice	The section 46 notice allows the council to serve a notice on an occupier requiring them amongst other things, to separate their waste for recycling and/or to put out their refuse at specific times and/or in containers we supply sets out the requirements of the service. On receipt of this Notice the residents will be required by law to comply with the arrangements for placing their waste out for collection. If this notice is not complied with, then the Council can prosecute or issue a Fixed Penalty Notice (FPN) which if unpaid may result in prosecution for the original offence. A Notice has no true end date, as long as the occupants remain.	Prosecution / FPN £100 *S47za (2)
Waste Presentation Commercial	Environmental Protection Act 1990	S47 Notice	The section 47 notice sets out the requirements of the service. Under the provisions of the Environmental Protection Act 1990 following receipt of this Notice the businesses will be required by law to comply with the arrangements for placing their waste out for collection. A Notice has no true end date, as long as the business rate payer / LTD company remains the same.	Prosecution / FPN £100 (S47za)
Waste Presentation Duty of Care Commercial	Environmental Protection Act 1990	S 34(5)	Regulation 4 the Environmental Protection (Duty of Care) Regulations 1991, Requiring Production of Written Documentation Regarding the Transfer of Commercial (Controlled) Waste	Prosecution / FPN £300 S34 A(2)
Waste Presentation Duty of Care Domestic	Environmental Protection Act 1990	S34 (2A)	it shall be the duty of the occupier of any domestic property to take all such measures available to him as are reasonable in the circumstances to secure that any transfer by him of house hold waste produced on the property is only to an authorised person.	the amendment to act under section 34(2A) which allows Welsh waste collection authority to issue a fixed penalty of £300.
Litter	Environmental Protection Act 1990	S87	to throw down or deposit litter open to the highway.	Prosecution / FPN £100 (S88(1))
Abandoned Shopping Trolley	Environmental Protection Act 1990	S99	Schedule 4 applies where any shopping or luggage trolley is found by an authorised officer of the local authority on any land in the open air and appears to him to be abandoned.	The charge of £75 is payable to the authority on demand.

Appendix 3 – Education and Enforcement Policy

fly tipping	Environmental Protection Act 1990	S33	Fly-tipping is the term used to describe waste illegally deposited on land. The offence of fly-tipping and the additional offences of 'knowingly causing' or 'knowingly permitting' fly-tipping are set out in Section 33(1)(a) of the Environmental Protection Act 1990. Including amendment to act under Section 33ZB which allows a Welsh waste collection authority to issue a fixed penalty of £400 for small scale fly tipping	On 25th October 2017 an amendment of the Environmental Protection Act 1990 was introduced enabling an authorised officer of a Welsh waste collection authority to issue a Fixed Penalty for fly-tipping in contravention with The Unauthorised Deposit of Waste (Fixed Penalties) (Wales) Regulations 2017 Prosecution / FPN £400
waste Carrier licence	Control of Pollution (Amendment) Act 1989	Section 5	Requiring Production of Written Documentation Regarding the Proof of Authority to Transport Controlled Waste	Prosecution / FPN £300 S5B(2)
Waste storage / accumulation on private land (frontage / rear / private property)	The Local Government (Miscellaneous Provisions) Act 1976	Intention to serve notice S16	The Notice to landowner to remove waste accumulation that is deemed to be detrimental to the Local Environmental Quality must be removed 7 as per notice	Failure to comply with the requirements of the Notice, without reasonable excuse, will result in FORMAL notice to execute works : S215 Notice - Town and County Planning Act 1990 or S4 Notice - Prevention of Damage by Pests Act 1949
Waste storage / accumulation on private land (frontage / rear / private property)	Town and County Planning Act 1990	S215	The Notice to landowner to remove waste accumulation that is deemed to be detrimental to the Local Environmental Quality must be removed within 28 days as per notice.	
Waste storage / accumulation on private land (frontage / rear / private property)	Prevention of Damage by Pests Act 1949	S4 Notice	The Notice to landowner to remove waste accumulation where pests are found to be present on land a "reasonable period" must be specified in the notice allowing time to comply with the necessary works following inspection.	
Statutory Nuisance	Environmental Protection Act 1990	S80 Notice	The abatement notice to the landowner is issued when an authorised officer is satisfied that a statutory nuisance exists; the accumulations are consistent and becoming a nuisance. The abatement notice instructs the landowner to execute the works and make necessary steps to stop the problem in the future.	Failure to comply with the requirements of the Notice, without reasonable excuse, will result in prosecution. A Works in Default will be applied to the land and subsequent charges will be added as disclosure as part of the prosecution.
Abandoned Vehicles on the highway.	Refuse Disposal (Amenity) Act 1978	S.2	Notice to owner to remove vehicle	
				S.10 of The Clean Neighbourhood and Environment Act 2005 FPN for breach of notice

Appendix 3 – Education and Enforcement Policy

	The Clean Neighbourhood and Environment Act 2000	S.10	Breach of notice	A person/business who fails, without reasonable excuse, to comply with these requirements of this Notice shall be liable on summary conviction to a fine not exceeding £1,000 and a criminal record. Cardiff Council may alternatively offer you the opportunity of discharging any liability to conviction for an offence by payment of a Fixed Penalty of £200
	Road Traffic Regulation Act 1984	S.99	Order Offender to remove abandoned Vehicle	Failure to comply with the requirements of the Notice, without reasonable excuse, will result in FORMAL notice to execute works
	Refuse Disposal (Amenity Act) 1978 Power	S.3		S2A(1) FPN £200
fly posting	Anti-social Behaviour Act 2003	s43	Displaying advertisement in contravention contrary to section 224(3) of the Town and Country Planning Act 1990.	FPN for failing to comply with Section 132 of Highways Act 1980 (as inserted by s43 Anti-Social Behaviour Act 2003) – placing an unauthorised mark on highway without lawful authority or causing or producing graffiti or flyposting.
	Town and Country Planning Act 1990.	224(3)		
interview under caution	Police and criminal evidence Act 1984	codes of practice	PACE - interview under caution	leads to evidence - Prosecution / FPN decision
community protection notices	Anti-social Behaviour, Crime and Policing Act 2014	S43	The community protection notice (CPN) will tackle the conduct of individuals / businesses, which is/are persistent and/or continuing in nature and is having a detrimental impact on the quality of life of others.	Prosecution / FPN
public space protection notices	Anti-social Behaviour, Crime and Policing Act 2014	s59	The PSPOs would be considered for Dog Control Orders: FAILURE TO REMOVE DOG FOULING FAILURE TO DEMONSTRATE MENAS TO REMOVE DOG FOULING DOGS ON LEADS BY DIRECTION DOG EXCLUSION	Prosecution / FPN
dog fouling	Dogs (Fouling of Land) Act 1996		FAILURE TO REMOVE DOG FOULING	Prosecution / FPN
high hedges	Anti-social behaviour Act	S69	Remedial notice will be issued under Section 69 of the Anti-social behaviour Act, The notice will be sent to the owner of the property and they will be given a specified time to carry out the works instructed by us.	If the owners fail to do so they will be prosecuted for the offence under S.75 of the Anti-social behaviour act. The courts will usually demand that they carry out the works or face further prosecution by means of a fine.

Appendix 3 – Education and Enforcement Policy

unauthorised distribution of literature on designated land	Environmental Protection Act 1990	Schedule 3A para. 7(2)	Breach of notice	Prosecution / FPN
Request for Info	Environment Act 1995	S108	request information to assist with fly tipping investigations.	Prosecution
Request for Info	Data Protection Act	S29	request information to assist with investigations	Prosecution

Appendix 2 - Enforcement Concordat

The Council has adopted the public sector 'Enforcement Concordat', which offers best practice guidance and promotes good standards of enforcement. This means the Council will try and persuade people to change their behaviour through information, education and advice, but will not hesitate to take enforcement action; such as issuing Fixed Penalty Notices or prosecuting when appropriate. This approach sends a clear message of 'zero tolerance' to those individuals or businesses who continue to spoil the environment. The Street Scene Education and Enforcement Team aim to conform to the principles outlined in the Concordat and apply them in the following ways:

Openness and Helpfulness

The Council will publicise this enforcement policy so people know what standards are expected. The Street Scene Education and Enforcement team will help residents and visitors to comply with the law and will explain what they are doing and why. They will inform people about their rights of appeal, where applicable and make sure people know how to make a complaint. They will try to help people who cannot read or speak English by providing literature in their language and educate them with the same message.

Proportionality, consistency and priorities

The Education and Enforcement team will carry out their duties in a fair, reasonable and consistent manner. They will take appropriate enforcement action when required to do so. Any action taken will fit the seriousness and prevalence of the crime. Each case is unique with certain offences being worse than others and therefore the enforcement action applied will potentially differ. The Education and Enforcement team will have sufficient training to apply law and work to this policy in a fair and consistent way. To ensure consistency Senior Officers will regularly audit the work of enforcement officers for accuracy and consistency.

In making a decision regarding which enforcement option is appropriate in a particular case, Street Scene Education and Enforcement Officers will consider and take into account the following:

- The nature of the offence
- Whether it is in the public interest
- Any explanation offered by the defendant
- The age of the defendant
- The previous relevant history, if any
- The ability of any important witnesses and their willingness to co-operate
- Whether other action such as the issue of a fixed penalty notice would be more appropriate or effective
- The advice contained in the Code for Crown Prosecutors

Having considered all the relevant information and evidence, the Street Scene Education Enforcement Officer must decide what type of action to take:

- Promotion and Education
- No Action (No evidence found)
- Informal Action

Appendix 3 – Education and Enforcement Policy

- Simple Caution
- Formal Caution
- Formal Action

Appendix 3 - Community Protection Notices

The community protection notice (CPN) will tackle the conduct of individuals / businesses, which is/are persistent and/or continuing in nature and is having a detrimental impact on the quality of life of others. These are designed to stop a person aged 16 or over, a business, or an organisation committing anti-social behaviour which spoils the community's quality of life.

Definitions of Anti-social behaviour

- 1) Conduct of individuals/ businesses which is persistent and/or continuing in nature and is having a detrimental impact on the quality of life of others
- 2) Conduct capable of causing a nuisance or annoyance to a person in relation to that persons occupation of residential premises
- 3) Conduct which is capable of causing housing related nuisance or annoyance to any person
- 4) Conduct that has caused or is likely to cause harassment alarm or distress to any person.

The CPN can only be issued if:

- Firstly a complaint is received on how it is affecting their quality of life.
- Secondly the inspection verifies the unreasonable behaviour.
- Thirdly the individual or business has been given a written warning telling them to cease their conduct and given "enough time" to deal with the matter.
- Fourthly the behaviour continues to be unreasonable and a formal CPN is issued.

Failure to comply with this notice will result in either prosecution, or the option of a Fixed Penalty Notice that cannot exceed £100. Alternatively, the Council also has the option of carrying out remedial work where the requirements of a CPN are not carried out provided that the land is open to the air. The local authority can then reclaim the costs from the "defaulter".

Formal Stages:

- 1) Complaint is received regarding conduct / behaviour of others that is persistent and/or continuing in nature and is having a detrimental impact on the quality of life of others.
- 2) Inspection / Assessment of the behaviour by authorised officer. Officers will consider the behaviour and will take action as necessary.
- 3) A formal written warning (appendix 1) will be issued *Pursuant to S43 of the Anti Social Behaviour, Crime and Policing Act 2014* if the officer considers that they are responsible for the unreasonable behaviour which is persistent and/or continuing in nature and is having a detrimental impact on the quality of life of others. The letter should be considered as formal notification for them to stop behaving in this manner and to put these problems right to avoid further consequence. Actions to take and timescales will be set.

- 4) A Community Protection Notice (CPN) is issued if they fail to comply with the actions / requirements within the timescales given and their behaviour continues to have a detrimental effect on the quality of life of others. The CPN requires that they must comply with the following prohibitions/positive requirements/specified actions that are believed necessary to:
 - (i) Prevent the detrimental effect your conduct is having on the quality of life of those in the locality from continuing or recurring; and/or
 - (ii) Reduce the detrimental effect your conduct is having on the quality of life of those in the locality; and/or
 - (iii) Reduce the risk of continuance or recurrence of your conduct that is having a detrimental effect on the quality of life of those in the localityThe notice is a formal notification that they **MUST** take the detailed actions within the timescales.
- 5) Their Right to appeal against the notice to the magistrates' court, within 21 days beginning with the date of service of the notice on them. Whilst an Appeal is "in progress", any requirement imposed by this notice to stop doing something remain in effect unless the court orders otherwise and any other requirements imposed by the notice is of no effect. For this purpose, an appeal is "in progress" until it is finally determined or is withdrawn.
- 6) BREACH OF CPN is a criminal offence. If they fail without reasonable excuse to comply with the requirement(s)
 - (i) They may be issued with a fixed penalty notice of £100
 - (ii) They may be prosecuted and convicted.

Appendix 4 - Public Space Protection Orders (PSPO)

The Public Spaces Protection Order would prohibit certain activities from taking place in a specified area or specify that certain things must be done to allow an activity to continue. Under these circumstances it might be that the area is not to be used for the exercising of dogs or that all fouling must be removed by the dog owner.

The Council does not currently have any dog controls in place across the city to control where dogs can go, whether they need to be on a lead or how many dogs a person can control at any one time.

These types of orders are designed to stop individuals or groups committing anti-social behaviour in a public space. The PSPO replaces dog control orders and allows the authority to designate public places for restrictions. Prohibition notices can be used for specific areas and/ or times, for example stopping dogs from entering playgrounds, schools grounds or restricting how many dogs could be taken through a public area by one person.

By adopting the PSPO the fine for any breach, including dog fouling would be £100. The PSPOs would be considered for Dog Control Orders:

- FAILURE TO REMOVE DOG FOULING
- FAILURE TO DEMONSTRATE MENAS TO REMOVE DOG FOULING
- DOGS ON LEADS BY DIRECTION
- DOG EXCLUSION

If the person in charge of a dog fails to comply with the requirements of the order, they will be committing a criminal offence unless:-

1. they have the consent from the owner, occupier or person in charge of the land, not to comply with the order;
2. they have a reasonable excuse for failing to comply; or
3. they fall within one of the other exemptions within the order, such as the exemptions in the order for disabled people, assistance dogs and working dogs.

The aim is to encourage responsible dog ownership and reduce other incidents involving dogs such as straying; dog bites; fouling on sports pitches and the dog fouling on our streets and green spaces. Such controls in play areas could also prevent problems becoming more serious and thus reduce the number of dog bites. Warnings can also be given to individuals who allow their dogs to roam freely without control causing nuisance in our communities. The Council will also should look to provide suitable dog walking areas in the locality, where other restrictions are in place.

Our joint commitments and service standards

Area	What we will do:	What we expect from our customer	Service Standards
<p>Recycling and Waste Collections-traditional households</p>	<p>Collect your household rubbish on your scheduled day, between 6am-4pm in the specific container provided.</p> <p>Reserve the right to refuse the collection of any waste items that may cause harm or may have an affect on the health and safety of waste collection staff.</p> <p>Label all wheeled bins with the correct address and bin type.</p> <p>Collect a maximum of 5 re-useable garden sacks/ 2 green wheeled bins (garden waste) per collection.</p> <p>Return your containers to where we found them. This will be on the highway outside your property, an alternative agreed collection point or within your property boundary if a registered collection has been arranged.</p> <p>Replace any wheeled bins, damaged by our refuse collectors free of charge.</p>	<p>To present your bins, bags and caddies by 6am on your scheduled day of collection and no earlier than 4.30pm the day before. Bring all containers back onto the property by 9am the following day.</p> <p>Report any missed collections of your recycling and waste within 24 hours of collection. You can report a missed collection at any time on your collection day, once your collection status has changed to 'collected'. You can use the link www.cardiff.gov.uk/missedcollections to report a missed collection, or see your collection status.</p> <p>Recorded collections can be reported up to 48 hours after a failed collection.</p> <p>Place your containers on the nearest highway for collection at the above times, unless an alternative collection point has been agreed.</p> <p>Only use the recycling and waste containers provided- failure to do so may result in a Fixed Penalty Notice of up to £100 being issued.</p> <p>To not remove or replace your label.</p>	<p>We will aim to return within 48 if you report that we have not collected your general waste/garden waste/hygiene waste on the scheduled collection day.</p> <p>We will not return if your bin has a report against it, such as contaminated/overloaded.</p> <p>We will attempt to return before 2 working days if we know that we have missed an entire street/round due to a service failure. We will aim to update the re-scheduled collection date at www.cardiff.gov.uk/missedcollections</p> <p>If your recycling or food waste is missed, we may return to collect on your next scheduled collection. We will collect any loose bags outside of your food waste caddy in this instance.</p> <p>We will check the vehicle CCTV cameras and trackers when all reports of non-collections are received. We will only return to make a re-collection if the report is found to be genuine.</p>

Appendix 4 – Service Standards

	<p>Place stickers onto your recycling or waste, letting you know if we can't collect them e.g. incorrect items.</p> <p>If you have a front garden, return your re-useable garden sack to your property boundary.</p> <p>Advertise, recommend and process all applications for hygiene waste collections.</p> <p>Offer an alternative collection point for hygiene waste, by agreement of customer and collection team.</p> <p>Remove properties from the hygiene service if hygiene bags have not been placed out for 4 consecutive collections.</p>	<p>To leave your waste containers at your property, if you are moving to another address.</p> <p>If you have a wheeled bin, all waste must fit inside your bin. Any bags outside your bin will not be collected, and may result in a Fixed Penalty Notice of up to £100 being issued.</p> <p>To make full use of the weekly recycling and food waste services available. To not abuse these services, by placing incorrect material into them to allow you a weekly collection of general waste. This may result in a Fixed Penalty Notice of up to £100 being issued.</p> <p>To maintain the condition of your wheeled bin and containers, and keep them within your property boundary at all times (except during your collection period).</p> <p>Not to compact waste tightly into your wheeled bin. If this happens your waste may not empty into our vehicle and re-collection would not be arranged.</p> <p>If your wheeled bin, or re-useable garden sack, is too heavy for collection, remove the excess waste before presenting for your next collection. As a guide, your bin should weigh no more than 20kg.</p> <p>To identify your correct collection dates and methods, by looking at all information</p>	<p>We will clear up any litter which has been created as a result of waste collection. If there is too much to clear with the equipment available, we will communicate with our Street Cleansing team to action.</p> <p>Report any issues on our incab devices for further action e.g, to identify any wheeled bins that we have damaged and need replacing.</p> <p>Replace your wheeled bin within 15 working days. This may increase in times of high demand</p> <p>You will receive a delivery of hygiene bags, and the date of your first collection, within 10 working days. This may increase in times of high demand.</p> <p>Investigate all reports of non-collections of hygiene waste, using all resources available.</p> <p>If the Council is at fault, re-collect your hygiene bags within 3 working days.</p>
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	<p style="text-align: center; font-size: 48px; opacity: 0.2; font-weight: normal;">DRAFT</p>	<p>made available e.g.via the Cardiff Gov App, website, information at Hubs</p> <p>Ensure that no items of a hazardous nature are placed into your recycling and waste bags; consider the health and safety of our crews at all times e.g. wrap sharp objects before placing into your bags.</p> <p>To place your hygiene waste kerbside, unless an alternative collection location has been agreed. This must be requested at the time of the initial application.</p> <p>To put your hygiene waste in Council issue bags only for collection.</p> <p>To inform us if you no longer require the hygiene service or if you are moving house.</p> <p>To not use any verbal or threatening behaviour towards our staff.</p>	
<p>Recycling and Waste Collections-blocks of flats</p>	<p>Collect your household recycling and waste in the specific container provided and clear up any rubbish spilled during the collection.</p> <p>The above will happen at the same frequency as traditional household collections, unless additional arrangements have been made.</p> <p>We will collect and return your containers from an agreed collection</p>	<p><u>Landlords/developers/property management companies</u></p> <p>Proactively maintain contact with the Waste Strategy Team when planning any new development/making changes to existing development. This is to ensure:</p> <ul style="list-style-type: none"> • A collection point and collection method is agreed. • Your bin store is accessible and safe for our crews to collect from. 	<p>We will return within 48 hours if you report that we have not collected your communal bins on the scheduled collection day, and there was no underlying cause for the missed collection (e.g. we will not return for contaminated bins).</p> <p>We will attempt to return within 48 hours if we know that we have missed an entire street/round due to a service failure.</p>

Appendix 4 – Service Standards

	<p>point, which should be agreed in the planning and development stage.</p> <p>Provide flat specific information including leaflets, and bin store signage.</p> <p>Have a dedicated officer to assist in improving recycling participation, and correct waste presentation, in blocks of flats.</p> <p>Replace any communal bins, damaged by our refuse collectors free of charge.</p> <p>Provide advice and support during the planning development stage, in relation to the type/number of bins required, access requirement for our crews and collection method statements</p> <p>Offer a sale of recycling and waste containers</p> <p>Offer a hygiene collection in blocks of flats.</p> <p>Reserve the right to not collect recycling and waste in incorrect containers, where containers are contaminated with incorrect items, or where a health and safety issue has been identified at the collection point.</p>	<ul style="list-style-type: none"> You have an adequate number of recycling and waste bins for the development. Payment is made for bins and delivery in advance. Recycling/waste bins and information is available for your residents before they move in. We have a contact for the development, should any issues arise in the future e.g. contamination issues, lack of bins, health and safety issue identified. Regularly monitor the presentation of waste from your building, to ensure it is compliant with our waste collection requirements e.g. no additional bags outside of the bins. Make arrangements to remedy any incorrect presentation. If you choose to buy bins from an alternative supplier, they must meet the Council's specification. If they don't, we do not have to collect your waste until the situation is resolved. Allow access to the development between 6am-4pm on the day of collection. <p>Further information can be found at www.cardiff.gov.uk/wasteplanning</p> <p><u>Residents</u></p>	<p>We will check the vehicle CCTV cameras and trackers when all reports of non-collections are received. We will only return to make a re-collection if the report is found to be genuine.</p> <p>If a non-collection of your food waste or recycling is reported, we may collect on your next scheduled collection. We will collect any additional green recycling bags outside of your bin in this instance.</p> <p>Any issues relating to the collection of communal bins will be recorded on our in cab device</p>
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		<ul style="list-style-type: none"> • Make full use of the recycling and waste collection schemes available at your block of flats • Let us know if you think recycling arrangements can be improved at your block of flats • Follow all recycling and waste presentation guidelines provided • Responsibly dispose of any bulky waste you have- do not simply leave within your bin store without making collection arrangements. <p>Inform us of the specific collection point for your hygiene waste.</p> <p>Do not place hygiene bags in any other container for collection.</p> <p>Ensure full access between 6am-9pm for hygiene bag collection.</p> <p>To not use any verbal or threatening behaviour towards our staff.</p>	
<p>Provision of wheeled bins, food waste liners, green recycling bags, red striped waste bags and food caddies</p>	<p>Provide recycling and food waste equipment free of charge, and in a variety of ways to meet customer needs.</p> <p>Provide re-useable, garden waste bags for a small fee. These can be ordered by contacting C2C, if you use these at your property.</p>	<p>If you are unable to attend a local stockist, please order your recycling and food waste equipment for delivery before you run out. This will ensure you can still participate in all services available.</p> <p>Please use all equipment as specified by the Council. Incorrect use may result in a</p>	<p>Deliver food waste liners and green recycling bags to all local stockists twice a week.</p> <p>Where demand is consistently high, consider increased deliveries to stockists.</p>

Appendix 4 – Service Standards

	<p>Deliver a limited supply of red striped waste bags twice a year, enough to place out up to 3 bags per fortnightly general waste collection (bag areas only). This will be 3 rolls as standard.</p> <p>Replace wheeled bins, lost or stolen from a property, for a set delivery fee.</p> <p>Identify an appropriate local stockist within each electoral area of Cardiff, to allow the collection of a maximum of 2 rolls (1 additional for a neighbour) of green recycling bags and food waste liners per person.</p>	<p>Fixed Penalty Notice of up to £100 being issued.</p> <p>Green recycling bags should not be used for any alternative purpose e.g. transporting non-recyclable waste to HWRC/charity shops, used for business waste, used outside of Cardiff.</p> <p>Be polite and courteous to staff within our local stockists, who have been asked to implement a control process to allow you a maximum of 2 rolls of bags per visit.</p> <p>Let us know if you require an alternative delivery address, where initial delivery has been unsuccessful, or you know you will not be home to receive delivery.</p> <p>To not use any verbal or threatening behaviour towards our staff.</p>	<p>To deliver the maximum stock of bags that can be held at each stockist, with consideration to available space.</p> <p>Deliver all ordered items within 15 working days of the order being received. This may increase in times of high demand</p> <p>Post rolls of bags through your letterbox, where design allows.</p> <p>Leave a delivery note in the following circumstances:</p> <ul style="list-style-type: none"> -where we have been unable to deliver item/s. - where item/s have been left at an alternative location. - where you have paid for the item/s. <p>We will deliver wheeled bins to the frontage of your property.</p> <p>We will not leave garden waste sacks on your doorstep. If your letter box allows, they will be posted. Alternatively, you must be home for delivery.</p> <p>We will not leave red striped waste bags on your doorstep. They will be posted through your letter box. Where no letter box is available, or no access to communal areas can be made, a note of unsuccessful delivery</p>
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Appendix 4 – Service Standards

			<p>will be made. We will send you a letter to allow you to collect your bags</p> <p>Visit your property twice to attempt delivery of chargeable items.</p>
<p>Bulky Waste Collections</p>	<p>Offer a bulky waste collection service, for large items.</p> <p>Work to procure a partnership with a local charity, to further enhance the re-use of bulky items that can be used again.</p> <p>We may be able to offer assistance with the removal of your bulky waste, if arrangements are made in advance.</p> <p>Inform our fly-tipping removal teams of all bulky waste collection bookings, to ensure they are not incorrectly assumed as fly-tipped items.</p> <p>Provide you with the closest date for collection, in line with demand for the service and resource available. You will be informed of your proposed collection day before any payment is made.</p>	<p>Present your items in line with the terms and conditions agreed to during your booking process.</p> <p>Seek alternative solutions to a bulky waste collection service, in line with the waste hierarchy e.g. provide for re-use, consider repair etc</p> <p>To not use any verbal or threatening behaviour towards our staff.</p>	<p>Collect your items between 6am-4pm on the day of collection.</p> <p>If a collection is missed due to service disruption, our contact centre staff will be informed. We will arrange to make a re-collection as soon as possible.</p> <p>We will update our in cab devices which will identify any reason why we have been unable to collect your bulky waste item.</p> <p>Leave a calling card to advise of any issues with collecting your item/s or confirm item has been collected</p>
<p>Household Recycling Centres (HRC)</p>	<p>Offer free to access HRCs for all Cardiff residents, with an annual allowance.</p>	<p>To book a slot online or via the Cardiff Gov app before attending site. Bookings can be made via telephone if you are unable to book online.</p>	<p>We will open 7 days/week (excluding Christmas Day and New Year's Day).</p>

Appendix 4 – Service Standards

	<p>Ask all customers for proof of Cardiff residency at the point of entry and refuse access to those bringing waste from other Local Authority areas.</p> <p>Ask customers to maximise opportunities for recycling and implement a 'no mixed waste' policy to ensure recycling has been maximised.</p> <p>Provide assistance and offer advice to all customers.</p> <p>Maintain service provision 7 days a week (with the exception of Christmas and New Year).</p> <p>Operate a van booking in procedure for those with larger vehicles or bringing in larger volumes of waste. This procedure limits individuals to 10 bookings/year.</p> <p>Update social media where possible, in the case of unexpected needs to close. Make cancellations of bookings, to provide you with an email notification of cancellation where an email address has been provided.</p>	<p>To present your proof of Cardiff residency, and booking confirmation</p> <p>To separate as many items as possible for recycling and follow any safety instructions provided by staff.</p> <p>To not use any verbal or threatening behaviour towards our staff.</p> <p>To use our commercial site at Bessemer Close for Commercial waste, or for any waste that you are unwilling/unable to separate for recycling.</p>	
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<p>Recycling and waste education</p>	<p>Implement and promote campaigns to increase recycling participation across the City.</p> <p>Let you know if your collections will be delayed due to Bank Holidays or inclement weather via our waste app, website and C2C contact centre.</p> <p>Ensure information regarding recycling and waste services is available to the public via a range of communication methods including:</p> <ul style="list-style-type: none"> - outreach sessions - social media e.g. twitter and facebook - website updates - Leaflets and letters - Advertising <p>Form partnerships with key stakeholders including student union, local volunteer groups, charities.</p> <p>Arrange assessments for residents who may struggle to present waste for collection on the highway- these are known as registered collections.</p> <p>Arrange assessments for residents who feel they require additional capacity for non-recyclable waste.</p>	<p>Provide us with correct information to enable us to complete our household visits.</p> <p>Allow us access to the frontage of your property if requesting a registered collection. Our officers will need to complete a risk assessment.</p> <p>Be open and honest when explaining why you need assistance with waste collections, or additional non-recyclable waste capacity.</p> <p>Be polite and courteous to our staff, who are aiming to help and are asked to relay key messages.</p> <p>Use your chosen communication reminder method to keep informed of recycling and waste messages/collection days etc.</p> <p>Take personal responsibility to ensure you are participating in all recycling schemes available. Contact us if you require assistance.</p> <p>Let us know if you no longer require a registered collection at your address.</p> <p>Respond to registered collection review letters, to let us know if you still require the service.</p>	<p>Organise at least 1 outreach session a month, and inform you where we will be via social media and the website www.keepcardiff tidy.co.uk</p> <p>Visit you within 10 working days to arrange a registered collection.</p> <p>Process any agreed registered collections by the end of the working day; your assistance will begin between 7-10 days.</p> <p>Visit you within 10 working days to arrange an additional capacity bin assessment.</p> <p>If any additional/larger bins are required, order these within 24 hours of the visit.</p> <p>Provide basic recycling and waste collection information in the 15 most spoken languages across the City.</p>
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Appendix 4 – Service Standards

	<p>Regularly review all properties signed up for a registered waste collection, to ensure they are still required.</p> <p>Complete regular monitoring of the City's participation in recycling schemes using a range of methods to include:</p> <ul style="list-style-type: none"> - desk based data analysis - on street monitoring <p>Produce improvement plans & changes of schemes when considering results of public satisfaction surveys.</p> <p>Continue the promotion of recycling and waste minimisation messages for school children, through our Really Rubbish Campaign.</p>		
<p>Compliments and complaints</p>	<p>Use your feedback to help us to improve our services.</p> <p>If something goes wrong, we will endeavour to put it right quickly.</p> <p>If possible, we will take action to ensure it doesn't happen again.</p> <p>We will ensure all compliments received reach our operational teams, via staff screens in communal areas.</p>	<p>Provide us with feedback via the various contact methods available to you.</p>	<p>Acknowledge your complaint within 5 working days of it being received.</p> <p>Aim to respond to your complaint within 20 working days.</p> <p>Let you know within the 20 working day period if we think it may take longer to investigate, and keep you informed.</p>

Appendix 5: Outline Action Plan

Headline Action	Current Recycling Performance	Likely Impact on Recycling Performance
1. Improve Material Quality, and 4. Make use of all available data	Further expand separate glass and other materials Oct/Nov 2022.	Medium
	Targeted education and enforcement programme to reduce garden waste contamination and increase recycling (links with 4.1, 4.2, 4.3 of Table 1). For example, the Pink Sticker Campaign/ Student Food Recycling Campaign/Be Mighty Recycle Campaign.	Medium
2. Increase Recycling Participation and Capture	Implement immediate and medium-term improvements to Trade to focus on recycling performance: - Reviewing all residual only contracts and only retain customers who sign up to recycling (implemented) - Cease provision of one-off mixed skips – all waste must be segregated into recyclable materials (implemented) - Implement 'One Pass' vehicle to collect three separate streams and comply with Business Waste Regulations. - Reinvigorate the Schools 'Really Rubbish' Campaign, linking with Trade to promote recycling services and composting in Schools.	High
	Review residual waste provision and introduce measures to increase participation in food waste service.	High
3. Increase opportunities to Recycle	Increase range of materials and opportunities to recycle (e.g. AHP, Tetra packs, coffee pods, SDA recycling facilities at hubs/pop up recycling centres)	Medium
	Recently introduced 2 new vehicles to our cleansing fleet that have a split back, to enable the separate collection of recycling from community litter picks. We will continue to build on this to increase more cleansing and enforcement waste.	Low
6. Encourage and support the prevention, reuse and repair of materials	Supporting Reuse and repair activities, in line with the circular economy vision: Working with Benthyc Cymru/Repair Café Wales; Introducing Reuse facility at Lamby Way HWRC; develop business case for re-use / repair superstore; Working with CLARE Wales to build a Repair Directory	Low

Version 1

City of Cardiff Council Waste Compositional Analysis



Waste composition analysis of kerbside collected and communally collected household waste in Cardiff

Project code: 5130

Research date: April 2021

Date: September 2021

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Our mission is to accelerate the move to a sustainable resource-efficient economy through re-inventing how we design, produce and sell products; re-thinking how we use and consume products; and re-defining what is possible through re-use and recycling.

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Written by Olivia Sweeney & Coralline Dundon



Front cover photography: [Mixed Dry Recycling in Wales]

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Executive summary

Resource Futures conducted a composition analysis of residual waste, recycling, and food for WRAP Cymru Collaborative Change Programme (CCP) and City of Cardiff Council in April 2021. Waste was collected for analysis from a representative sample of properties receiving kerbside waste collections and from a representative sample of properties receiving communal waste collections (flats).

The aim of the composition analysis is to better understand recycling performance in Cardiff, including comparing the performance of properties receiving both service types. The analysis will determine the proportion of residual waste which could have been recycled using existing services.

Using Output Area Classification (OAC), Resource Futures selected two samples:

- A sample of 210 kerbside households, proportionally stratified so that each demographic group was represented according to the same proportions as the wider Cardiff area. The sample included some of the same households included in the 2015 analysis. Waste samples were collected by Resource Futures.
- A sample of 201 properties receiving a communal waste service was selected to reflect their demographic profile across Cardiff. Waste samples were collected by Cardiff Council under Resource Futures supervision.

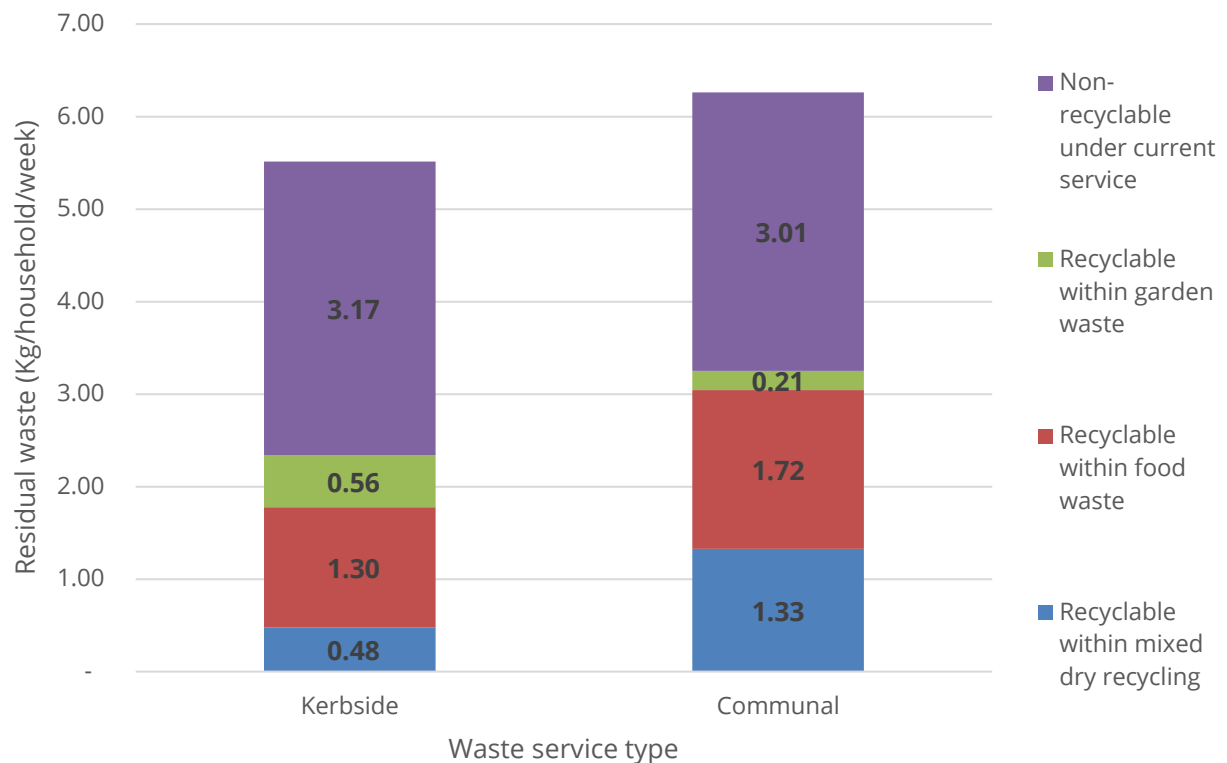
The fieldwork was undertaken at an industrial unit in Cardiff rented by WRAP, where a team of experienced Resource Futures staff analysed the samples of waste to the agreed category list (see Appendix 1). In total 9,803 kilograms of waste was collected and analysed over four weeks of fieldwork, including 4,752 kg residual waste, 3,768 kg dry recycling and 1,263 kg of separately collected food waste.

The overall arising of waste across all waste streams combined from the average household receiving a communal waste service was lower than from the average property receiving a kerbside waste service – 10.91 kg/hh/week and 13.32 kg/hh/week respectively. However, there were clear differences in waste and recycling performance between the properties receiving a kerbside collection service and those receiving a communal collection service, as outlined below.

Residual waste

- A higher amount of residual waste was produced by communal properties (6.26 kg/hh/wk) than properties receiving a kerbside service (5.51 kg/hh/wk). Communal properties residual waste contained a higher proportion of material targeted by the mixed dry recycling, food waste and garden waste collections (51.9% or 3.26 kg/hh/wk) than residual waste collected from the kerbside (42.5% or 2.34 kg/hh/wk), as shown in the figure overleaf.
- Despite the provision of food waste and garden waste services to all households included in the study, the proportion of putrescible waste within all samples analysed remained high for both services. Putrescible waste made up the largest proportion of the residual waste by weight – 39.4% or 2.17 kg/hh/wk at the kerbside and 35.0% or 2.19 kg/hh/wk for properties receiving a communal service. In both cases the most common kerbside recyclable material found was food waste.

- On average 21.2%, or 1.33 kg/hh/wk of the material within the communal residual waste was targeted by the mixed dry recycling collection. At the kerbside, a lower 8.7% of residual waste analysed, or 0.48 kg/hh/wk, was targeted by the mixed dry recycling collection and could have been recycled.



Mixed dry recycling

- Communal properties produced a lower arising of dry recycling (4.1kg/hh/wk) compared to kerbside properties (5.11kg/hh/wk).
- Materials targeted by the mixed dry recycling service were very well captured overall at the kerbside (89%), but less so when collected communal (64%).
- Higher contamination was found within the dry recycling stream for communal serviced properties (41.4%, 1.69 kg/hh/wk), compared to 23.7% (1.21 kg/hh/wk) for kerbside properties.

Food waste

- At the kerbside the arising of separately collected food waste was 2.67 kg/hh/wk. Separately collected food waste arisings were significantly lower for communal properties, just 0.55 kg/hh/wk.
- Communal properties had a much lower capture rate for food waste - 19% compared to 62% for kerbside properties.
- Looking across all waste streams, kerbside properties produced more food waste than those receiving a communal service – 4.2 kg/hh/wk and 2.74 kg/hh/wk respectively.

The overall picture shows that communal properties are performing to a much lower recycling standard than kerbside properties.

Contents

1.0	Introduction	5
1.1	Recycling Service	5
1.1.1	Kerbside Collection	5
1.1.2	Communal Properties Collection	5
1.2	Project Objectives	6
2.0	Methodology	6
2.1	Sample stratification and design	6
2.1.1	Kerbside collected waste sample	7
2.1.2	Communal collected waste	7
2.2	Composition analysis fieldwork	7
2.2.1	Kerbside sample collection	7
2.2.2	Communal sample collection	8
2.2.3	Sorting protocol and waste categorisation	8
2.3	Analysis method	8
2.3.1	Capture rates	8
2.3.2	Extended Producer Responsibility and Deposit Return Scheme	8
3.0	Kerbside waste results	9
3.1	Sample achieved	9
3.2	Set out rates	9
3.3	Composition and arisings of kerbside collected residual waste	9
3.3.1	Absorbent Hygiene Product Waste	12
3.3.2	Other potentially recyclable material	12
3.3.3	Estimated impact of future legislation	12
3.4	Composition and arisings of kerbside collected recycling	13
3.4.1	Estimated impact of future legislation	15
3.5	Composition and arisings of kerbside collected food waste	16
3.6	Capture rates	16
4.0	Communal waste results	19
4.1	Sample achieved	19
4.2	Composition and arisings of communal properties residual waste	19
4.2.1	Other potentially recyclable material	22
4.2.2	Estimated impact of future legislation	22
4.3	Composition and arisings of communal properties recycling	23
4.3.1	Estimated impact of future legislation	25
4.4	Composition and arisings of communal properties food waste	26
4.5	Capture rates	26
6.0	Conclusion	29
	Appendix 1 Cardiff kerbside and communal properties recycling service	31
	Appendix 2 Potential impact of EPR and DRS schemes	34

Figures

Figure 1: Recyclable material within kerbside residual waste **Error! Bookmark not defined.**

Figure 2: Recyclable material within communal properties residual waste.. **Error! Bookmark not defined.**

Figure 3: Residual waste composition in Cardiff kerbside properties (%) 10

Figure 4: Recyclable material within residual waste 12

Figure 5: Recycling composition by percentage weight 15

Figure 6: Capture rates of recyclable material (%) 18

Figure 7: Residual waste composition in Cardiff communal properties (%) 20

Figure 8: Recyclable material within communal properties residual waste..... 22

Figure 9: Recycling composition by percentage weight 25
 Figure 10: Capture rates by target material (%)..... 28

Tables

Table 1: OAC Demographic profile for Cardiff Council - kerbside properties & flats 6
 Table 2: Fieldwork schedule 7
 Table 3: Set out rates 9
 Table 4: Residual waste composition by percentage weight and arisings in kg/hh/wk..... 10
 Table 5: Arising of material targeted by existing recycling service within residual waste 11
 Table 6: Summary of potential impact of EPR and DRS schemes on residual waste 13
 Table 7: Recycling waste composition by percentage weight and arisings in kg/hh/wk 14
 Table 8: Summary of potential impact of EPR and DRS schemes on mixed dry recycling..... 15
 Table 9: Food waste composition by percentage weight and arisings in kg/hh/wk..... 16
 Table 10: Capture rates by target material (%)..... 17
 Table 11: Sample achieved 19
 Table 12: Residual waste composition by percentage weight and arisings in kg/hh/wk 20
 Table 13: Arising of material targeted by existing recycling service within residual waste.... 21
 Table 14: Summary of potential impact of EPR and DRS schemes on residual waste 23
 Table 15: Recycling waste composition by percentage weight and arisings in kg/hh/wk..... 24
 Table 16: Summary of potential impact of EPR and DRS schemes on mixed dry recycling... 25
 Table 17: Food waste composition by percentage weight and arisings in kg/hh/wk 26
 Table 18: Capture rates by target material (%)..... 27
 Table 19: Kerbside and Communal properties recycling service 31
 Table 20: EPR and DRS Impact 34

Acknowledgements

We would like to thank City of Cardiff Council for their assistance in delivering this project.

1.0 Introduction

Resource Futures was commissioned by the WRAP Cymru CCP team to conduct a waste composition analysis of kerbside collected and communally collected waste for City of Cardiff Council (Cardiff Council). The analysis included residual waste, dry recycling and food waste, and was undertaken over the full collection cycle. The kerbside collected waste compositional analysis took place from 23rd -March to 3rd April 2021. The communal properties waste compositional analysis took place from 6th April to 16th April 2021. This report presents the results of both analyses.

1.1 Recycling Service

1.1.1 Kerbside Collection

Cardiff Council provides a comprehensive kerbside collection service to its residents using a mixture of containers and bags for different materials.

Dry recycling is collected from residents weekly using green single use plastic bags. Materials accepted in the green recycling bag include:

- Recyclable paper,
- Recyclable card,
- Plastic bottles, pots, tubs and trays, and,
- Tins, cans, empty aerosols and clean foil.

Glass is usually collected in a blue bin, but residents had temporarily been instructed to include glass in the green bags. This was due to COVID 19 impacting staffing levels, and consequently the collection service in Cardiff.

Food waste is collected weekly using an outdoor caddy.

Residual waste is collected fortnightly in either red striped bags or 140L black wheelie bins, which must have the lid closed to be collected. An optional fortnightly service for absorbent hygiene products waste is also available to residents on the opposite week to the residual week. Hygiene products are accepted within the normal residual waste too.

An optional garden waste service is offered by Cardiff Council. The service does not operate in the winter months and garden waste containers (240 L green wheel bins or white sacks) are chargeable.

A full list of materials and items accepted for recycling within each stream is given in Appendix 1.

1.1.2 Communal Properties Collection

Residents living in flats in Cardiff are provided with a very similar service to that offered to kerbside properties, with additional communal containment.

Dry recycling is collected from residents weekly, green bags are provided to households, and these must be placed in the communal green bin (660L-1100L). Food waste is also collected weekly. Caddy liners are provided to households and food waste is placed in communal brown 240L food waste bin for collection. Garden Waste collections are provided to

communal properties with gardens – garden waste must be placed unbagged into green 240L wheeled bins provided.

An optional service for hygiene products is offered to be collected in yellow bags, this is a fortnightly service, on the opposite week to residual collection. Hygiene products are accepted within the normal residual waste too.

A full list of materials and items accepted for recycling within each stream is given in Appendix 1.

1.2 Project Objectives

The aim of the composition analysis is to better understand recycling performance in Cardiff, particularly the difference in performance between the kerbside collected and communally collected waste services. The analysis will determine the proportion of residual waste which could have been recycled using existing services.

2.0 Methodology

2.1 Sample stratification and design

Output Area Classification (OAC) demographic system from the Office of National Statistics (ONS) was used to create a demographic profile of Vale of Glamorgan population, which was used to stratify the sample. This was the same methodology as used in the Welsh National composition analysis study in 2015.

The OAC data was combined with accommodation type data based on the 2011 Census available for the ONS to determine the profile of communal properties in Wales. Data was matched by Output Area. The data suggested that flats account for 26% of households in Cardiff.

The demographic profile of all properties in Cardiff is shown in the table below, as well as the demographic profile of flats in Cardiff.

Table 1: OAC Demographic profile for Cardiff Council - kerbside properties & flats

OAC Super group	OAC Supergroup title	Demographic profile (All housing types)	Demographic profile (Flats only)
1	Rural Residents	0.1%	0.0%
2	Cosmopolitans	15.0%	34.3%
3	Ethnicity central	4.7%	13.3%
4	Multicultural metropolitans	14.7%	11.7%
5	Urbanites	23.3%	19.6%
6	Suburbanites	19.5%	2.6%
7	Constrained City Dwellers	8.2%	13.6%
8	Hard pressed living	14.5%	5.0%
Total		100.0%	100.0%

2.1.1 Kerbside collected waste sample

Collection round data was provided by Cardiff Council. Individual postcodes were then profiled by OAC Supergroup to allow for selection of appropriate streets and houses for inclusion in the study.

A demographically representative sample of 210 household was selected, including some of the properties used during the Welsh National composition analysis study in 2015 to maximise comparability. The household sample was proportionally stratified so the proportion of households in each OAC supergroup stratum is the same as the overall authority profile.

The target number of households selected within each OAC group is shown in section 3.1.

Resource Futures created a detailed sample plan and paperwork identifying which households should be included in the overall sample frame.

2.1.2 Communal collected waste

Collection round data was provided by Cardiff Council and used to create a list of suitable communal properties which could be included in the study. Appropriate properties with communal waste arrangements were chosen based on OAC group. Care was taken to identify properties where waste could be clearly attributed to the correct number of households to enable accurate arising calculations. The type of communal properties was not considered (i.e., private vs social vs sheltered accommodation). A demographically representative sample of communal properties totalling 200 households was selected. The sample was non-proportionally stratified and results were weighted to match the overall communal properties profile.

The target number of households selected within each OAC group is shown in section 4.1.

2.2 Composition analysis fieldwork

The composition analysis fieldwork took place over 10 days for kerbside properties and 10 days for communal properties, to ensure the full collection cycle was included for each type of service. The fieldwork commenced on 23rd March 2021 and ended on 18th April 2021. Table 2 below shows the fieldwork schedule.

Table 2: Fieldwork schedule

Week starting	Streams Collected and Sorted	Service Type
23rd March	Residual, dry recycling and food waste	Kerbside
30th March	Recycling and food waste	Kerbside
6th April	Residual, dry recycling and food waste	Communal
13th April	Recycling and food waste	Communal

2.2.1 Kerbside sample collection

A Resource Futures site manager, collection vehicle driver and loader collected all waste samples during the fieldwork. The collection team was provided with a detailed daily collection list. The regular collection crews at Cardiff Council were briefed about the work

and were instructed not to visit certain streets each day until the sample collection had been completed. All waste was collected on the regular collection day.

2.2.2 Communal sample collection

Collections of residual waste and mixed dry recycling from communal bins were undertaken by Cardiff Council using an RCV and supervised by a Resource Futures collections supervisor. Food waste was collected by Resource Futures. The collection team was provided with a detailed daily collection list. All waste was collected on the regular collection day.

2.2.3 Sorting protocol and waste categorisation

Once collected, samples were delivered to a rented industrial unit in Cardiff. All collected waste was analysed and categorised into the agreed category list. Weights were obtained for each category of material using digitally calibrated scales. The disposal of sorted waste was arranged by Cardiff Council staff at Lamby Way with material being kept separate for recycling.

2.3 Analysis method

The material weights recorded during the composition analysis fieldwork were inputted into tailored MS Excel files, and all data values were quality checked to ensure accuracy. The report focuses on the main category level findings. More detail can be found in the accompanying MS Excel files.

Percentage composition was calculated by weight for each kerbside and communal demographic group level sample. The results from each demographic group were combined proportionally as a weighted average to calculate the overall composition. The average household arisings in kilograms per household per week (kg/hh/wk) were calculated for each material category by demographic group and as a whole.

The proportion of material in the residual waste which could be recycled at the kerbside was calculated, as well as the contamination levels of the recycling streams, according to the Cardiff Council material acceptance policies for each material stream. Nappy waste has not been included as recycling in the analysis as this waste stream is not currently sent for recycling.

2.3.1 Capture rates

Capture rates is defined as how much targeted recyclable material is found in the recycling as opposed to the residual (%). For example, if we measured 10kg of newspaper in the residual waste and 90kg in the recycling, this would result in a 90% capture rate.

2.3.2 Extended Producer Responsibility and Deposit Return Scheme

Future legislation such as Extended Producer Responsibility (EPR) and Deposit Return Scheme (DRS) is currently under consultation and is likely to come into play in the next few years, with potentially significant impact for local authority services.

There are currently two options being considered for the implementation of DRS: 'All In' – included items such as glass, plastic and metal beverage containers of all sizes

'On the Go' which only includes single (<750ml) size plastic, metal and glass beverage containers.

There are immediate and future plans for EPR schemes. The imminent proposal includes packaging waste. The future scheme could cover items such as textiles and building waste.

The material analysed was classified in a way which allowed an estimation of the potential impact of these schemes to be calculated. Full details of materials included in these schemes can be found in Appendix 2.

Please note that figures are accurate to one decimal point and where the table or chart sums do not add to 100% this is due to rounding in MS Excel.

3.0 Kerbside waste results

In total 5,574 kilograms of waste was collected from 210 kerbside households over 10 days, including 2,316 kg residual waste (of which 42kg was separately collected nappy and hygiene waste) 2,138 kg mixed dry recycling and 1,120 kg food waste.

3.1 Sample achieved

All collections were undertaken as planned, including waste from 210 households in the desired proportions.

3.2 Set out rates

The set out for week one and week two for each waste stream included in the analysis is shown in Table 3 below.

Table 3: Set out rates

Set out rate			
	Residual waste	Recycling	Food waste
Week 1	100.0%	94.8%	72.9%
Week 2	N/A	86.5%	71.9%

As shown in the table above there is variation in usage of both recycling service and food waste service between the first and second week of the collection cycle. Although the participation remained high, the recycling and food waste service was slightly less well used in the second week of the collection cycle.

3.3 Composition and arisings of kerbside collected residual waste

The average kerbside household residual waste arising was 5.51 kg/household/week.

Full detailed findings at demographic group and sub-category level are shown in the accompanying MS Excel files.

The composition and arisings from the analysis are shown in Table 4 and Figure 3.

Table 4: Residual waste composition by percentage weight and arisings in kg/hh/wk

Material category	Composition (%)	Arisings (Kg/HH/wk)
Number of households in sample	210	
1. Paper and Card	9.6%	0.53
2. Plastic Film	6.9%	0.38
3. Dense Plastic	4.7%	0.26
4. Textiles	6.6%	0.36
5. Other Combustible	17.6%	0.97
6. Other Non-Combustible	4.8%	0.27
7. Glass	3.1%	0.17
8. Putrescibles	39.4%	2.17
9. Ferrous Metal	1.7%	0.09
10. Non-Ferrous Metal	1.0%	0.06
11. WEEE	2.0%	0.11
12. Potentially Hazardous	0.9%	0.05
13. Fines	1.6%	0.09
14. Council Issued Sacks	0.1%	0.00
Total	100.0%	5.51

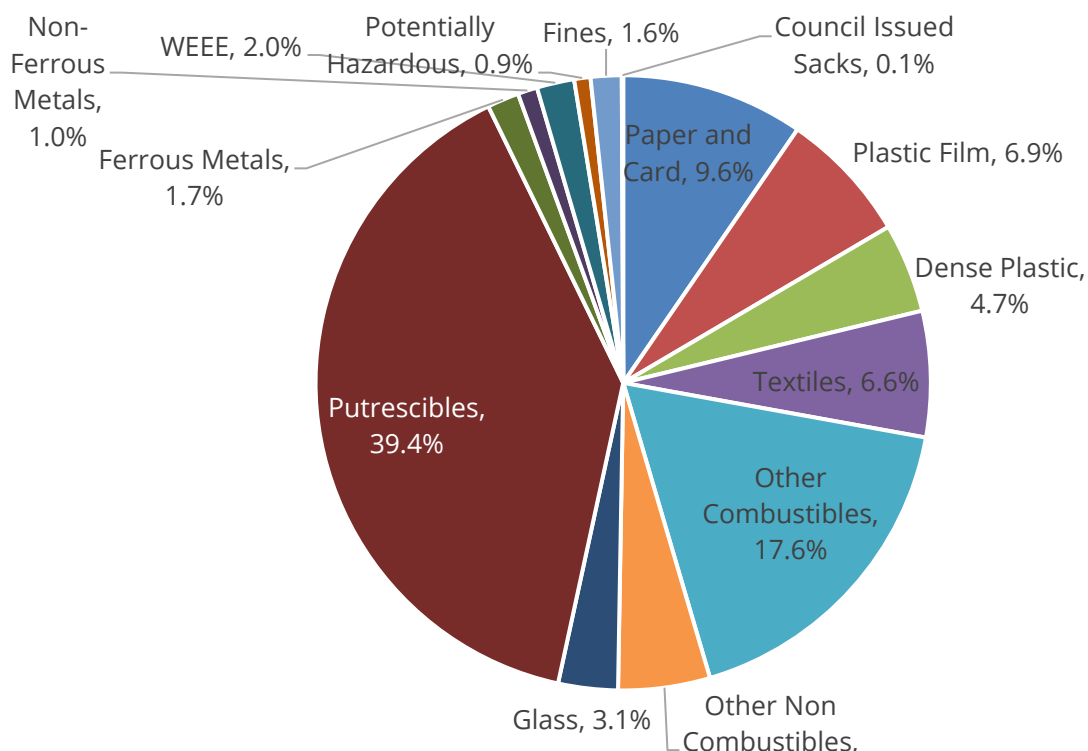


Figure 1: Residual waste composition in Cardiff kerbside properties (%)

Putrescible waste made up the largest proportion of the residual waste by weight, 39.4% of residual waste analysed or 2.17 kg/hh/wk. The majority of this material was food waste

(23.6%, 1.30 kg/hh/wk), of which 16.1% was classified as edible, 1.8% as potentially edible and 5.6% as inedible. Cooking fats and liquids found within food and drink containers accounted for 1% of residual waste and other organic material (mainly pet excrement) accounted for 4.6% of residual waste. Garden waste and soil accounted for 3.8% and 6.4% respectively.

Other combustible materials accounted for 17.6% and included items such as nappies (5.4%), other absorbent hygiene products (2.4%) as well as wood and cork (3.6%).

Paper and card accounted for 9.6% (0.53 kg/hh/wk) of residual waste analysed. While the majority of the material was tissues, paper towels and kitchen roll (4.6%), 3.7% could have been recycled at the kerbside had it been placed in the correct container by residents.

The total proportion of material by percentage weight which could have been recycled using the existing kerbside services (mixed dry recycling, food waste and garden waste collections) was 42.5%. The average weekly household arisings of kerbside recyclable material in the residual stream was 2.34 kg/hh/wk.

The overall proportion and arising of kerbside recyclable materials found within the kerbside residual waste stream are shown in Table 5 and Figure 4.

Table 5: Arising of material targeted by existing recycling service within residual waste

Composition of residual waste	Composition (%)	Arisings (Kg/HH/wk)
Dry Recycling	8.7%	0.48
Food Waste	23.6%	1.30
Garden Waste	10.2%	0.56
Non-recyclable at the kerbside	57.5%	3.17
Total	100.0%	5.51

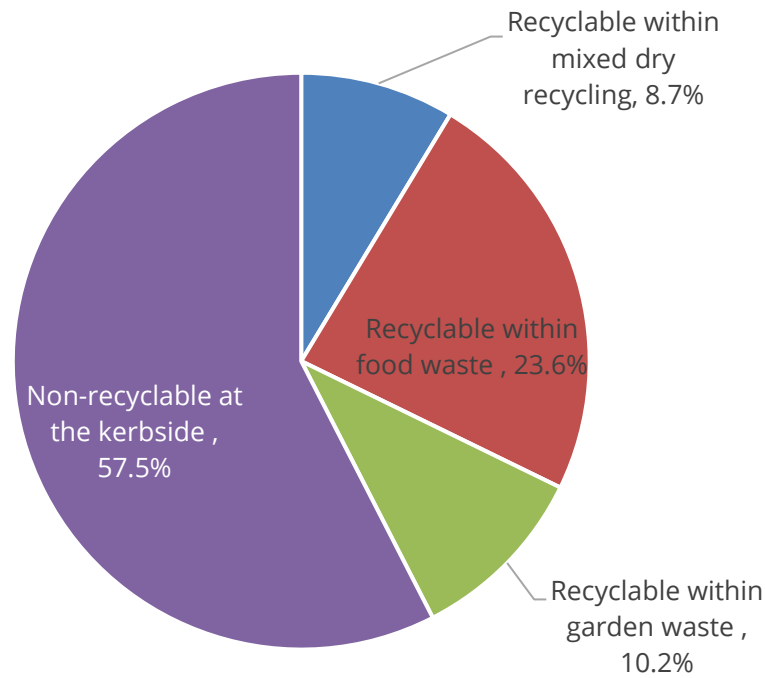


Figure 2: Recyclable material within residual waste

3.3.1 Absorbent Hygiene Product Waste

Cardiff Council offers residents a kerbside collection for absorbent hygiene products (AHP) waste on the second week of the collection cycle to allow residents to dispose of these materials weekly. The material was separately collected and analysed on the second week of the analysis to quantify its arising. As the AHP waste is not currently sent for recycling, it has been included within the residual figures in Table 4 above.

The arising of separately collection AHP waste in the Cardiff Council area was 0.20kg/hh/wk, of which the majority was nappies, 0.16 kg/hh/wk. It should be noted that this service was only used by residents in OAC 6, 7 and 8.

3.3.2 Other potentially recyclable material

A number of materials with recycling potential but not currently recyclable within the kerbside recycling service were also found within the residual waste. Overall, 7.3% of residual waste analysed (including textiles and WEEE) was recyclable through other routes.

Recyclable textiles, which include clothing, shoes, bags and household linens made up 5.3 % or 0.29 kg/hh/wk. This material could have been recycled either at the HWRC or through other textile recycling or reuse options such as textile banks, charity shops and door to door charity collections.

WEEE across all categories account for 2.0% of residual waste or 0.11 kg/hh/wk, should not be disposed of within the residual waste stream and could have been recycled at the HWRCs.

3.3.3 Estimated impact of future legislation

Future legislation such as Extended Producer Responsibility (EPR) and Deposit Return Scheme (DRS) is currently under consultation and is likely to come into play in the next few years, with potentially significant impact for local authority services.

There are currently two options being considered for the implementation of DRS:

- 'All In' – included items such as glass, plastic and metal beverage containers of all sizes
- 'On the Go' which only includes single (<750ml) size plastic, metal and glass beverage containers.

There are immediate and future plans for EPR schemes. The imminent proposal includes packaging waste. The future scheme could cover items such as textiles and building waste.

Table 6 below summarises the potential impact of these schemes.

Table 6: Summary of potential impact of EPR and DRS schemes on residual waste

Composition of residual waste	Composition (%)	Arisings (Kg/HH/wk)
Materials potentially impacted by EPR (packaging)	14.2%	0.78
Materials potentially impacted by EPR long term (Textiles & building materials)	11.7%	0.64
Materials potentially impacted by 'All in' DRS scheme	1.3%	0.07
Materials potentially impacted by 'On-the-go' DRS scheme	0.8%	0.04

The table above shows that up to 1.3% of residual waste could fall within the proposed DRS scheme – 1.3% for the 'All in' scheme or 0.8% for the 'on the go' scheme.

The table above shows that 14.2% of the residual waste is packaging and could be impacted by the packaging EPR scheme. The future, broader scheme could potentially apply to a further 11.7% of the residual stream.

3.4 Composition and arisings of kerbside collected recycling

The composition findings and arising calculations from the analysis are shown in Table 7 and Figure 5

Table 7: Recycling waste composition by percentage weight and arisings in kg/hh/wk

Material category	Composition (%)	Arisings (Kg/HH/wk)
Number of households in sample	210	
1. Paper and Card	37.2%	1.90
2. Plastic Film	3.5%	0.18
3. Dense Plastic	13.7%	0.70
4. Textiles	0.8%	0.04
5. Other Combustible	3.3%	0.17
6. Other Non-Combustible	0.5%	0.03
7. Glass	27.6%	1.41
8. Putrescibles	5.0%	0.26
9. Ferrous Metal	3.3%	0.17
10. Non-Ferrous Metal	3.2%	0.16
11. WEEE	0.2%	0.01
12. Potentially Hazardous	0.3%	0.02
13. Fines	0.4%	0.02
14. Council Issued Sacks	1.1%	0.05
Total	100.0%	5.11

Paper and card accounted for the highest proportion of the mixed dry recycling analysed, 37.2%, of which 31.6% was recyclable paper and card. Of the remaining 5.6% which was not targeted for recycling, 2.5% was tissues and kitchen roll.

Glass accounted for 27.6% of the mixed dry recycling analysed, of which all but 0.5% was recyclable glass bottles and jars. On average, 21.8% of the recycling analysed was glass beverage containers.

Dense plastic accounted for 13.7% of the mixed dry recycling analysed this included 6.9% plastic bottles, 4.6% plastic pots, tubs and trays (PTTs) and 2.3% other dense plastic items not targeted by the recycling scheme. A further 3.5% of plastic film was also found within the mixed dry recycling.

The overall contamination level of the recycling analysed was significant - 23.7% or 1.21 kg/hh/wk of the material analysed was not targeted by the scheme. As well as the non-recyclable items mentioned above, the contamination included 4.0% solid food waste and 4.9% liquid food and drink waste.

Full detailed findings at demographic group and sub-category level are shown in the accompanying MS Excel files.

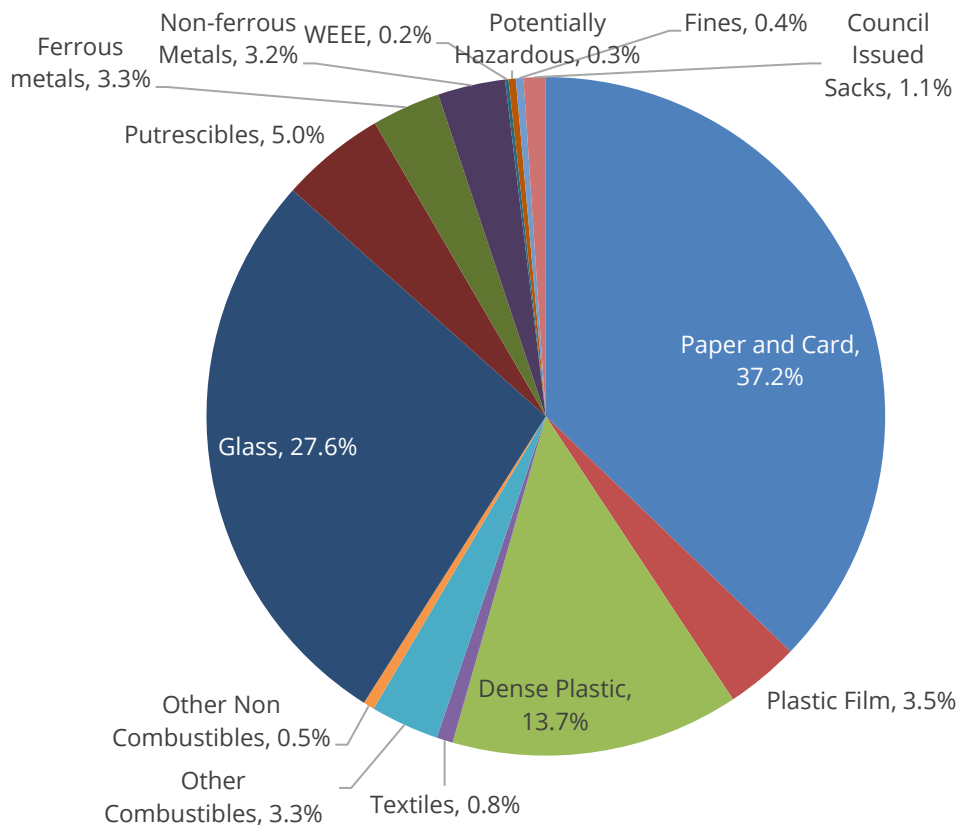


Figure 3: Recycling composition by percentage weight

3.4.1 Estimated impact of future legislation

As mentioned in Section 3.3.3 above, the impact of upcoming EPR and DRS legislation on local authority collected waste has been estimated and is shown in Table 8 below.

Table 8: Summary of potential impact of EPR and DRS schemes on mixed dry recycling

Composition of residual waste	Composition (%)	Arisings (Kg/HH/wk)
Materials potentially impacted by EPR (packaging)	71.6%	3.66
Materials potentially impacted by EPR long term (Textiles & building materials)	1.5%	0.08
Materials potentially impacted by 'All in' DRS scheme	27.1%	1.38
Materials potentially impacted by 'On-the-go' DRS scheme	16.2%	0.83

The table above shows that up to 27.1% of mixed dry recycling could fall within the proposed DRS scheme – 27.1% for the 'All in' scheme or 16.2% for the 'on the go' scheme.

The table above shows that 71.6% of the mixed dry recycling analysed was classified as packaging and could be impacted by the packaging EPR scheme. The future, broader scheme could potentially apply to a further 1.5% of mixed dry recycling.

3.5 Composition and arisings of kerbside collected food waste

The composition and arisings of kerbside collected food waste in Cardiff are shown in Table 9 below.

Table 9: Food waste composition by percentage weight and arisings in kg/hh/wk

Material category	Composition (%)	Arisings (Kg/HH/wk)
Number of households in sample	210	
Inedible food waste	43.0%	1.15
Potentially edible food waste	12.3%	0.33
Edible food waste	37.8%	1.01
Cooking fat	0.0%	0.00
Liquids	0.0%	0.00
Other organic	3.0%	0.08
Other putrescibles	0.3%	0.01
Other waste	0.9%	0.02
Fines	2.7%	0.07
Total	100.0%	2.67
Contamination	7%	0.19

On average 93.0% of the food waste analysed was categorised as food waste– inedible food waste accounted for 43.0%, edible food waste accounted for 37.8% and potentially edible food waste accounted for 12.3% of material analysed.

A further 7.0% of the material analysed was not food waste. Other organic matter (mostly pet excrement) was also found within the food waste, as well as a small amount of garden waste (0.3%).

Other materials were found which were probably used to contain the food waste such as kitchen roll and tissues (0.6%), paper and card-based food packaging (0.1%) or carrier bags (0.1%). On average 2.7% of food waste was smaller than 10mm and classified as fines.

3.6 Capture rates

The capture rate (see 2.3.1 for description) for materials targeted by the food waste and mixed dry recycling services are shown in Table 10 and Figure 6.

Materials targeted by the dry recycling service were well captured overall, with 89% of items targeted by the service being found within the mixed dry recycling.

Glass was captured in 94% of cases – this included beverage containers, with 97% of recyclable material ending up in the mixed dry recycling and non-beverage glass bottles and jars which were slightly less well captured, 87%.

The overall capture rate for paper and card categories was 89% - corrugated card and food and drink cartons were best captured (94% and 90% respectively), while thin card (for example cereal boxes) was least well captured (84%).

The overall capture rate for metals was 66%. Non-ferrous drink cans were the best captured material (90%), while aluminium foil (which also included foil trays) was poorly captured at just 32%.

Overall, 62% of food waste was captured by the food waste service. Inedible food waste, and potentially edible food waste were all well captured, edible food waste had the lowest capture rate.

Table 10: Capture rates by target material (%)

Category	Subcategory	Capture Rate
Paper and Card	Recyclable paper packaging	85%
	Recyclable paper non-packaging	89%
	Thin card packaging	84%
	Thin card non-packaging	83%
	Corrugated card packaging	94%
	Food and drink cartons	90%
Dense Plastic	Plastic bottles	90%
	Plastic pots, tubs and trays	77%
Glass	Glass beverage containers	97%
	Glass non-beverage bottles and jars	87%
Food Waste	Inedible food waste	78%
	Potentially edible food waste	75%
	Edible food waste	49%
Metals	Ferrous tins	87%
	Ferrous aerosols	66%
	Non-ferrous drinking cans	90%
	Non-Ferrous aerosols	73%
	Aluminium foil	32%
	Mixed dry recycling capture rate	89%
	Food waste capture rate	62%

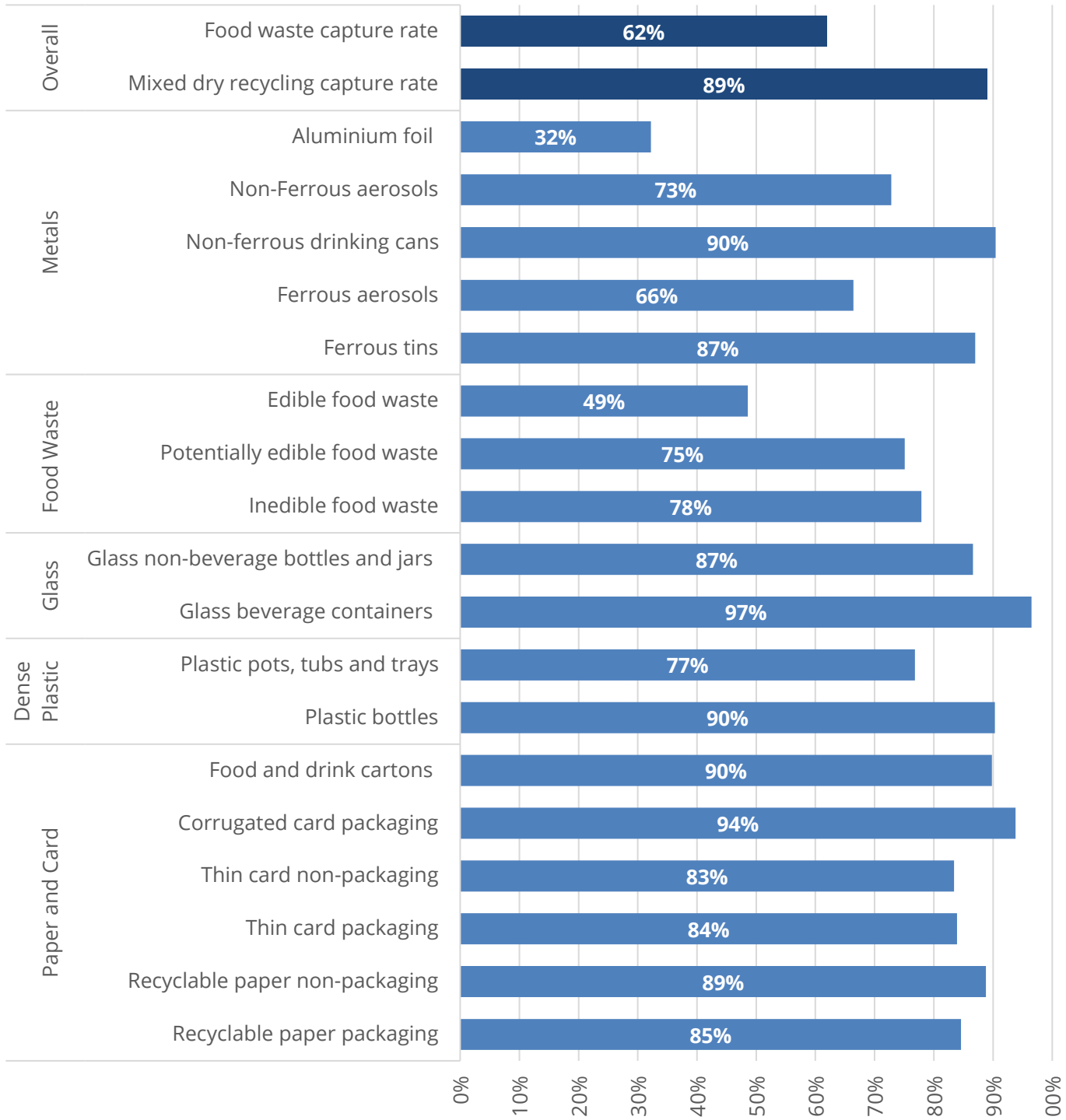


Figure 4: Capture rates of recyclable material (%)

4.0 Communal waste results

In total 4,229 kilograms of was collected from 209 communal properties over 10 days, including 2,436kg residual waste, 1,630kg recycling and 163 kg food.

4.1 Sample achieved

During collections, the Resource Futures collections supervisor identified that some of the blocks selected for inclusion in the analysis shared their waste containers with other neighbouring properties. Where this was identified, all waste containers were collected, and the number of properties adjusted to ensure that the collected waste came from a known number of households and enable accurate arising calculation.

The above led to some variation in the sample achieved compared to the planned sample, as shown in Table 11 below. As waste from each demographic group was sampled and analysed separately, the results were weighted to ensure they were representative of Cardiff's overall flats population.

Table 11: Sample achieved

OAC Super group	OAC Supergroup title	Target household numbers	Achieved household numbers
1	Rural Residents	0	0
2	Cosmopolitans	48	48
3	Ethnicity central	24	27
4	Multicultural metropolitans	25	42
5	Urbanites	39	39
6	Suburbanites	0	0
7	Constrained City Dwellers	64	53
8	Hard pressed living	0	0
	Total	200	209

4.2 Composition and arisings of communal properties residual waste

The composition and arisings of communal properties residual waste in Cardiff are shown in Table 12 and Figure 7 below.

Table 12: Residual waste composition by percentage weight and arisings in kg/hh/wk

Material category	Composition (%)	Arising (kg/hh/wk)
Number of households in sample	209	
1. Paper and Card	13.1%	0.82
2. Plastic Film	4.5%	0.28
3. Dense Plastic	7.1%	0.44
4. Textiles	4.1%	0.26
5. Other Combustible	17.2%	1.08
6. Other Non-Combustible	3.6%	0.22
7. Glass	7.2%	0.45
8. Putrescibles	35.0%	2.19
9. Ferrous Metal	3.1%	0.19
10. Non-Ferrous Metal	1.8%	0.11
11. WEEE	0.6%	0.04
12. Potentially Hazardous	0.6%	0.04
13. Fines	2.0%	0.12
14. Council Issued Sacks	0.2%	0.01
Total	100.0%	6.26

The average communal waste household's residual waste arising was 6.26 kg/household/week.

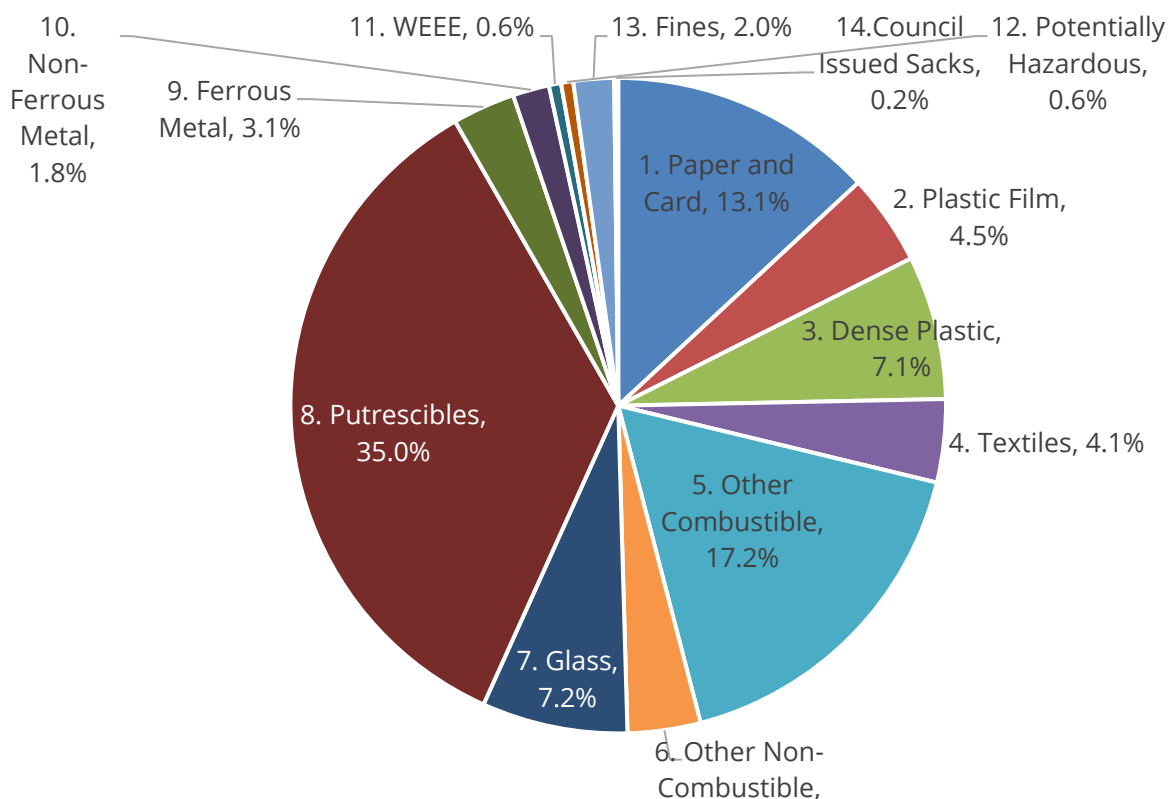


Figure 5: Residual waste composition in Cardiff communal properties (%)

Putrescible waste made up the largest proportion of the residual waste by weight, 35.0% of residual waste analysed or 2.19 kg/hh/wk. The majority of this material was food waste (27.4%, 1.72 kg/hh/wk), of which 18.9% was classified as edible, 1.6% as potentially edible and 7.0% as inedible. Liquids found within food and drink containers accounted for 1.9% of residual waste and other organic material (mainly pet excrement) accounted for 2.4% of residual waste. Garden waste and soil accounted for 1.6% and 1.7% respectively.

Other combustible materials accounted for 17.2% and was mainly composed of carpet and underlay (6.7%). The vast majority of this carpet was found in a single bin store where it weighed over 100kg. Though this is not typical behaviour and maybe skewing results, it is not uncommon to see bulky items disposed of with communal bins. Other combustible materials also included items such as nappies (1.7%), other absorbent hygiene products (1.1%) as well as wood and cork (1.7%) and furniture (1.0%).

Paper and card accounted for 13.1% (0.82 kg/hh/wk) of residual waste analysed. While the majority of the material could have been recycled using the existing recycling facilities (7.4%), the category also includes non-recyclable elements such as 3.7% of non-recyclable paper towels and kitchen roll.

The total proportion of material by percentage weight which could have been recycled using the existing kerbside services (communal mixed dry recycling, communal food waste and communal garden waste collections) was 51.9%. The average weekly household arisings of kerbside recyclable material in the residual stream was 3.25 kg/hh/wk.

The overall proportion and arising of communal properties collected recyclable materials within the residual waste stream are shown in Table 13 and Figure 8 below.

Table 13: Arising of material targeted by existing recycling service within residual waste

Composition of residual waste	Composition (%)	Arisings (Kg/HH/wk)
Dry Recycling	21.2%	1.33
Food Waste	27.4%	1.72
Garden Waste	3.3%	0.21
Non-recyclable at the kerbside	48.1%	3.01
Total	100.0%	6.26

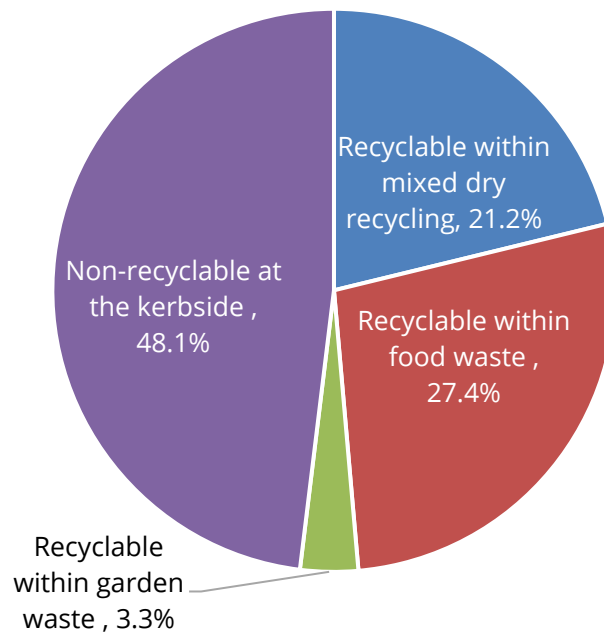


Figure 6: Recyclable material within communal properties residual waste

4.2.1 Other potentially recyclable material

A number of materials with recycling potential but not currently recyclable within the kerbside recycling service were also found within the residual waste. Overall, 2.6% of residual waste analysed (including textiles and WEEE) was recyclable through other routes.

Recyclable textiles, which include clothing, shoes, bags and household linens made up 2.0% or 0.13 kg/hh/wk. This material could have been recycled either at the HWRC or through other textile recycling or reuse options such as textile banks, charity shops and door to door charity collections.

WEEE across all categories accounted for 0.6% of residual waste or 0.03 kg/hh/wk, should not be disposed of within the residual waste stream and could have been recycled at HWRC.

Full detailed findings at demographic group and sub-category level are shown in the accompanying MS Excel files.

4.2.2 Estimated impact of future legislation

Future legislation such as Extended Producer Responsibility (EPR) and Deposit Return Scheme (DRS) is currently under consultation and is likely to come into play in the next few years, with potentially significant impact for local authority services.

There are currently two options being considered for the implementation of DRS:

- 'All In' – included items such as glass, plastic and metal beverage containers of all sizes
- 'On the Go' which only includes single (<750ml) size plastic, metal and glass beverage containers.

There are immediate and future plans for EPR schemes. The imminent proposal includes packaging waste. The future scheme could cover items such as textiles and building waste.

Table 14 below summarises the potential impact of these schemes.

Table 14: Summary of potential impact of EPR and DRS schemes on residual waste

Composition of residual waste	Composition (%)	Arisings (Kg/HH/wk)
Materials potentially impacted by EPR (packaging)	25.2%	1.58
Materials potentially impacted by EPR long term (Textiles & building materials)	13.6%	0.85
Materials potentially impacted by 'All in' DRS scheme	6.8%	0.42
Materials potentially impacted by 'On-the-go' DRS scheme	1.6%	0.10

The table above shows that up to 6.8% of residual waste could fall within the proposed DRS scheme – 6.8% for the 'All in' scheme or 1.6% for the 'on the go' scheme.

The table above shows that 25.2% of the residual waste is packaging and could be impacted by the packaging EPR scheme. The future, broader scheme could potentially apply to a further 13.6% of the residual stream.

4.3 Composition and arisings of communal properties recycling

The composition findings and arising calculations from the analysis are shown in Table 15 and Figure 9.

Table 15: Recycling waste composition by percentage weight and arisings in kg/hh/wk

Material category	Percentage composition	Arising kg/hh/wk
Number of households in sample	209	
1. Paper and Card	28.0%	1.15
2. Plastic Film	3.1%	0.13
3. Dense Plastic	11.0%	0.45
4. Textiles	7.1%	0.29
5. Other Combustible	6.0%	0.25
6. Other Non-Combustible	0.9%	0.04
7. Glass	21.4%	0.88
8. Putrescibles	13.4%	0.55
9. Ferrous Metal	3.0%	0.12
10. Non-Ferrous Metal	2.5%	0.10
11. WEEE	1.2%	0.05
12. Potentially Hazardous	0.4%	0.01
13. Fines	1.0%	0.04
14. Council Issued Sacks	1.1%	0.05
Total	100.0%	4.10

The overall contamination level of the recycling analysed was very significant – 41.4% or 1.69 kg/hh/wk of the material analysed was not targeted by the scheme. One of the samples analysed contained 64.8% non-target material, including nearly 25kg of furniture and 48kg of clothing. Though this is not typical behaviour and maybe skewing results, it is not uncommon to see bulky items disposed of with communal bins.

Paper and card accounted for the highest proportion of the mixed dry recycling analysed, 28.0%, of which 24.4% was recyclable paper and card. The remaining 3.6% was not targeted for recycling.

Glass accounted for 21.4% of the mixed dry recycling analysed, of which all but 1.2% was recyclable glass bottles and jars. On average, 15.9% of the recycling analysed was glass beverage containers.

Putrescible waste was a major contaminant of the mixed dry recycling – 13.4%. The contamination included 11.4% solid food waste and 1.0% liquid food and drink waste.

Dense plastic accounted for 11.0% of the mixed dry recycling analysed this included 5.8% plastic bottles, 3.2% plastic pots, tubs and trays (PTTs) and 1.9% other dense plastic items not targeted by the recycling scheme. A further 3.1% of plastic film was also found within the mixed dry recycling.

Full detailed findings at demographic group and sub-category level are shown in the accompanying MS Excel files.

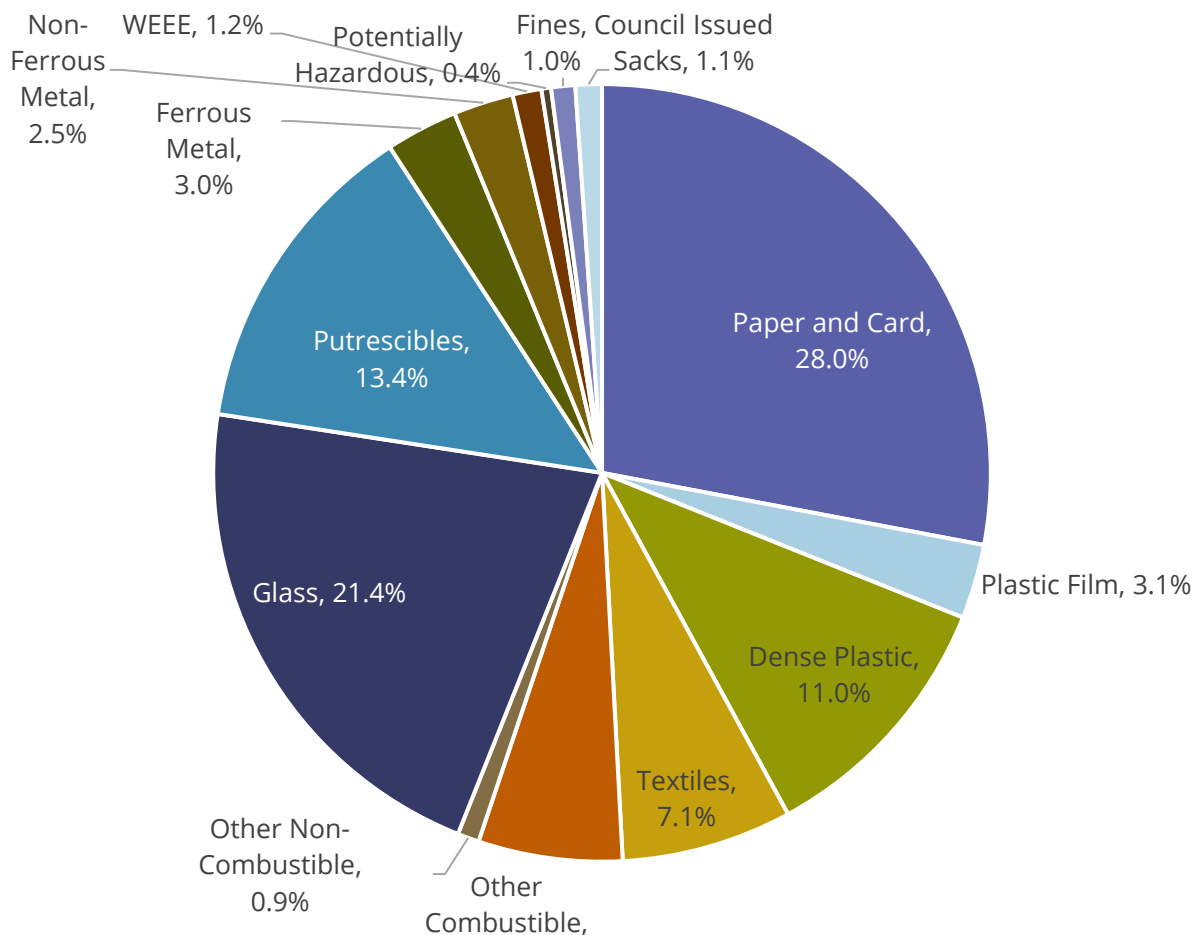


Figure 7: Recycling composition by percentage weight

4.3.1 Estimated impact of future legislation

As mentioned in section 4.2.2 above, the impact of upcoming EPR and DRS legislation on local authority collected waste has been estimated and is shown in Table 16 below.

Table 16: Summary of potential impact of EPR and DRS schemes on mixed dry recycling

Composition of residual waste	Composition (%)	Arisings (Kg/HH/wk)
Materials potentially impacted by EPR (packaging)	56.7%	2.32
Materials potentially impacted by EPR long term (Textiles & building materials)	9.4%	0.39
Materials potentially impacted by 'All in' DRS scheme	20.5%	0.84
Materials potentially impacted by 'On-the-go' DRS scheme	4.3%	0.18

The table above shows that up to 20.5% of mixed dry recycling could fall within the proposed DRS scheme – 20.5% for the 'All in' scheme or 4.3% for the 'on the go' scheme.

The table above shows that 56.7% of the mixed dry recycling analysed was classified as packaging and could be impacted by the packaging EPR scheme. The future, broader scheme could potentially apply to a further 9.4% of mixed dry recycling.

4.4 Composition and arisings of communal properties food waste

The composition findings and arisings calculations from the analysis are shown in Table 17 below.

Table 17: Food waste composition by percentage weight and arisings in kg/hh/wk

Material category	Percentage composition	Arising kg/hh/wk
Number of households in sample	209	
Inedible food waste	43.7%	0.24
Potentially edible food waste	10.7%	0.06
Edible food waste	35.6%	0.20
Cooking fat	0.0%	0.00
Liquids	0.7%	0.00
Other organic	2.6%	0.01
Other putrescibles	0.4%	0.00
Other waste	6.3%	0.04
Fines	0.0%	0.00
Total	100.0%	0.55

On average 90.0% of the food waste analysed was categorised as food waste – inedible food waste accounted for 43.7%, edible food waste accounted for 35.6% and potentially edible food waste accounted for 10.7% of material analysed.

A further 10.0% of the material analysed was not food waste. Other organic matter (mostly pet excrement, 2.6%) was also found within the food waste, as well as a small amount of garden waste (0.4%).

Other materials were found which were probably used to contain the food waste such as kitchen roll and tissues (0.9%), paper and card-based food packaging (0.5%) or carrier bags (0.6%).

4.5 Capture rates

The capture rate (see 2.3.1 for description) for materials targeted by the food waste and mixed dry recycling services are shown in Table 18 and Figure 10.

Materials targeted by the dry recycling service were fairly well captured overall, with 64% of items targeted by the service being found within the mixed dry recycling.

Glass was captured in 67% of cases – this included beverage containers, with 69% of recyclable material ending up in the mixed dry recycling and non-beverage glass bottles and jars which were slightly less well captured, 60%.

The overall capture rate for paper and card categories was 68% - corrugated card and non-packaging thin card were best captured (80% and 78% respectively), while recyclable paper packaging was least well captured (38%).

The overall capture rate for metals was 40%. Non-ferrous drink cans and ferrous tins were the best captured metals (58% and 59% respectively), while aluminium foil (which also included foil trays) was poorly captured at just 19%.

Overall, only 19% of food waste was captured by the food waste service. Inedible food waste was best captured (29%), while edible food waste had the lowest capture rate (12%).

Overall, 18.5% of food waste was captured by the food waste service.

Table 18: Capture rates by target material (%)

Category	Subcategory	Capture Rate
Paper and Card	Recyclable paper packaging	38%
	Recyclable paper non-packaging	70%
	Thin card packaging	59%
	Thin card non-packaging	78%
	Corrugated card packaging	80%
	Food and drink cartons	65%
Dense Plastic	Plastic bottles	63%
	Plastic pots, tubs and trays	50%
Glass	Glass beverage containers	68%
	Glass non-beverage bottles and jars	60%
Food Waste	Inedible food waste	29%
	Potentially edible food waste	31%
	Edible food waste	12%
Metals	Ferrous tins	59%
	Ferrous aerosols	52%
	Non-ferrous drinking cans	58%
	Non-Ferrous aerosols	55%
	Aluminium foil	19%
Overall	Mixed dry recycling capture rate	64%
	Food waste capture rate	19%

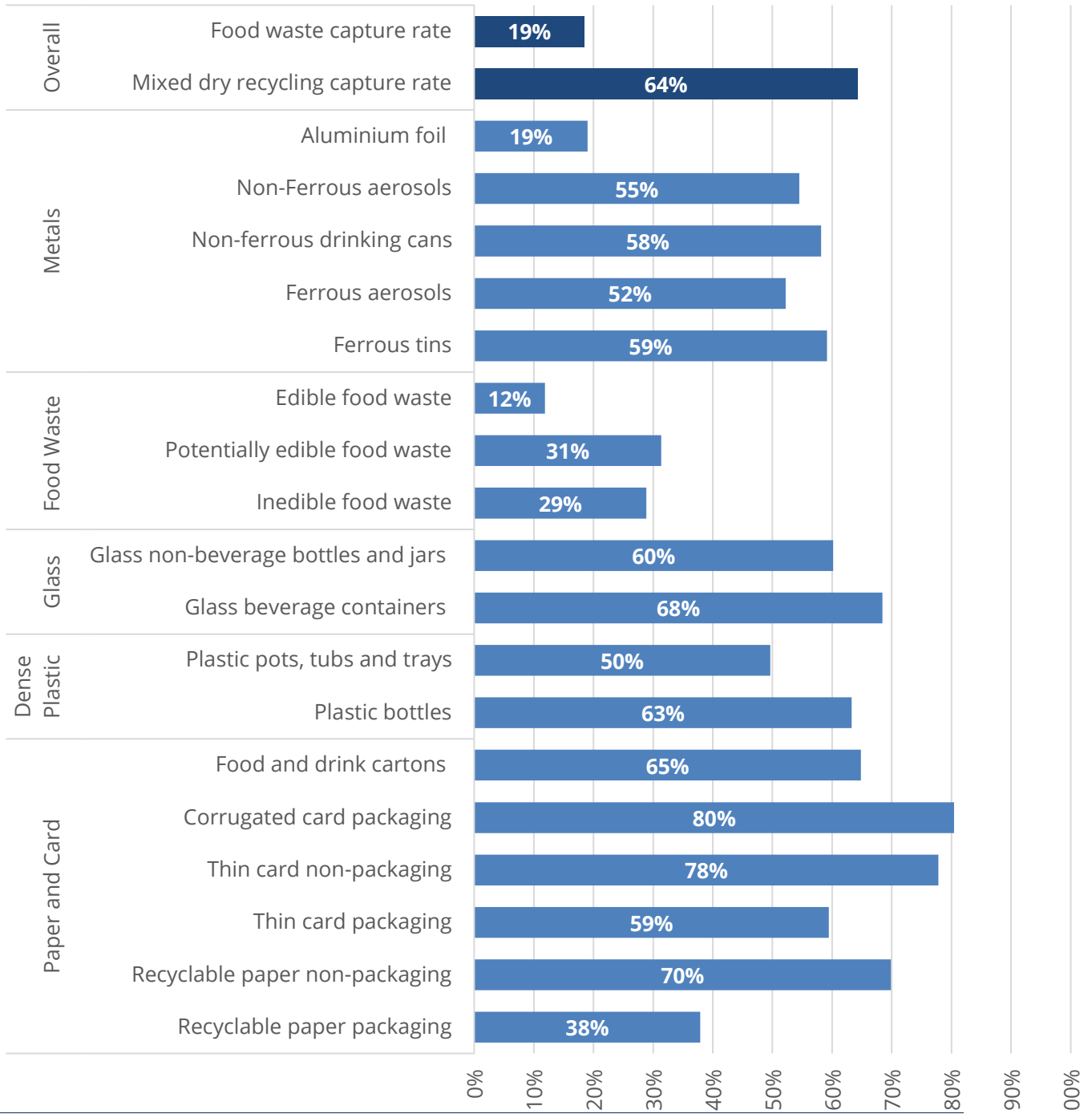


Figure 8: Capture rates by target material (%)

6.0 Conclusion

The overall arising of waste from the average household receiving a communal waste service was lower than the average property receiving a kerbside waste service – 10.91 kg/hh/week and 13.32 kg/hh/week respectively. However, there were clear differences in waste and recycling performance between the properties receiving a kerbside collection service and those receiving a communal collection service.

A higher amount of residual waste was produced by communal properties (6.26 kg/hh/wk) than properties receiving a kerbside service (5.51 kg/hh/wk). Communal properties residual waste contained a higher proportion of material targeted by the mixed dry recycling, food waste and garden waste collections (51.9% or 3.26 kg/hh/wk) than residual waste collected from the kerbside (42.5% or 2.34 kg/hh/wk). Encouraging residents to take full use of the services provided may improve recycling and food waste performance.

Despite the provision of food waste and garden waste services to all households included in the study, the proportion of putrescible waste within all samples analysed remained high for both services. Putrescible waste made up the largest proportion of the residual waste by weight – 39.4% or 2.17 kg/hh/wk at the kerbside and 35.0% or 2.19 kg/hh/wk for properties receiving a communal service. In both cases the most common kerbside recyclable material found was food waste. The arising of food waste present within the residual waste indicates was 1.30 kg/hh/wk at the kerbside and 1.72 kg/hh/wk for communal properties. The proportion of residual waste which could have been recycled by the garden waste service provided was 3.3% or 0.21 kg/hh/wk for communal properties and 10.2% or 0.56 kg/hh/wk at the kerbside.

Overall, 21.2%, or 1.33 kg/hh/wk of the material within the communal residual was targeted by the mixed dry recycling collection. At the kerbside, a lower 8.7% of residual waste analysed, or 0.48 kg/hh/wk, was targeted by the mixed dry recycling collection and could have been recycled. Within the kerbside residual waste, the main recyclable materials were thin card (1.5%), recyclable paper (also 1.5%), plastic pots tubs and trays (1.3%), glass jars (0.8%) and aluminium foil (0.7%). Recyclable paper and card categories accounted for 7.4% of communal residual waste and could have been recycled had it been placed in the correct container. Plastic bottles accounted for 2.2% and plastic pots tubs and trays for 2.1%, while glass beverage containers accounted for 4.8% and glass jars for 1.8%. Metal tins, cans, aerosols and foil accounted for 2.8% of communal residual waste composition.

Materials which were potentially recyclable through other routes, such as textiles or WEEE were also found within the residual waste analysed. They accounted for 0.40 kg/hh/wk within kerbside residual waste and for 0.16 kg/hh/wk within the communal residual waste.

Communal properties produced a lower arising of dry recycling (4.1kg/hh/wk) compared to kerbside properties (5.11kg/hh/wk). Materials targeted by the mixed dry recycling service were very well captured overall at the kerbside (89%), but less so when collected communally (64%). Higher contamination was found within the dry recycling stream for communal properties (41.4%, 1.69 kg/hh/wk), compared to 23.7% (1.21 kg/hh/wk) for kerbside properties.

In communal bins, putrescible waste was a major contaminant of the mixed dry recycling – 13.4%. The contamination included 11.4% solid food waste and 1.0% liquid food and drink waste. Anecdotal evidence from the fieldwork team also suggested that there may be some confusion among residents in flats about the correct procedure for recycling food. There

were several occasions where compostable bags full of separate food waste and whole packaged food items were found within the communal mixed dry recycling bins. A further 7.1% was textiles (including 4.6% clothing), and 6.7% other combustible material, which included bulky items such as rolls of carpets and furniture which do not tend to be found within kerbside residual waste, mainly because they do not easily fit in an individual wheeled bin. The dry recycling contamination of communal bins also included 3.6% non-recyclable paper and card, 3.1% plastic film (excluding council issues recycling sacks) and 1.9% other plastic items not targeted for recycling.

Within kerbside dry recycling, 4.0% of the contamination was food waste which could have been recycled at the kerbside had it been placed in the correct container. The dry recycling contamination of kerbside bins also included 5.6% non-recyclable paper and card, 3.5% plastic film (excluding council issued recycling sacks) and 2.3% other plastic items not targeted for recycling.

Looking across all waste streams, kerbside properties produced more food waste than those receiving a communal service – 4.2 kg/hh/wk and 2.74 kg/hh/wk respectively. Communal properties had a much lower capture rate for food waste - 19% compared to 62% for kerbside properties. Inedible food waste was best captured but edible food waste was most poorly captured. This suggests that residents who do not participate in food waste recycling are more likely to manage their food poorly and dispose of packaged food. Most of the waste found in the food waste stream at both kerbside and communal properties was target material, 93% and 90% respectively

At the kerbside the arising of separately collected food waste was 2.67 kg/hh/wk. Separately collected food waste arisings were significantly lower for communal properties, just 0.55 kg/hh/wk. Food waste was also found as a contaminant within the mixed dry recycling, where it accounted for 0.20 kg/hh/wk at the kerbside and 0.47 kg/hh/wk for properties receiving a communal service.

The overall picture shows that communal properties are performing to a much lower recycling standard than kerbside properties. This suggests that the anonymity of communal waste services, as well as the difficulties with moving waste from properties to bin storage, and understanding the different bin uses all significantly impact performance in communal properties. Improving the supervision, signage and labelling of the bins in communal bin stores, as well as ensuring all residents are regularly provided with service information could help improve performance going forward. Further information on improving recycling performance in urban areas and making recycling work for people in flats is available from [WRAP](#) and [ReLondon](#) (formerly LWARB).

Appendix 1 Cardiff kerbside and communal properties recycling service

Table 19: Kerbside and Communal properties recycling service

Main Categories	Sub-categories	Communal	Kerbside
		Recyclable in communal service?	Recyclable at Kerbside?
1. Paper and Card	Recyclable paper packaging	Yes (Dry Recycling)	Yes (Dry Recycling)
	Recyclable paper non-packaging	Yes (Dry Recycling)	Yes (Dry Recycling)
	Thin card packaging	Yes (Dry Recycling)	Yes (Dry Recycling)
	Thin card non-packaging	Yes (Dry Recycling)	Yes (Dry Recycling)
	Corrugated card packaging	Yes (Dry Recycling)	Yes (Dry Recycling)
	Corrugated card non-packaging	Yes (Dry Recycling)	Yes (Dry Recycling)
	Drink cartons (Tetra Pak)	Yes (Dry Recycling)	Yes (Dry Recycling)
	Kitchen roll and tissues	No	No
	Food contaminated P&C	No	No
	Other non-recyclable paper and card packaging	No	No
	Other non-recyclable paper and card non-packaging	No	No
2. Plastic Film	Carrier bags	No	No
	Black bin bags	No	No
	Plastic film packaging	No	No
	Plastic film non-packaging	No	No
3. Dense Plastic	Plastic bottles-plain milk or not beverage	Yes (Dry Recycling)	Yes (Dry Recycling)
	Drink bottles > 750ml - single format	Yes (Dry Recycling)	Yes (Dry Recycling)
	Drink bottles > 750ml - multipack	Yes (Dry Recycling)	Yes (Dry Recycling)
	Drink bottles < 750ml - single format	Yes (Dry Recycling)	Yes (Dry Recycling)
	Drink bottles < 750ml - multipack	Yes (Dry Recycling)	Yes (Dry Recycling)
	PTTs	Yes (Dry Recycling)	Yes (Dry Recycling)
	Other dense plastic packaging	No	No
	Other dense plastic non-packaging	No	No
4. Textiles	Clothing	No	No

Main Categories	Sub-categories	Communal Recyclable in communal service?	Kerbside
		Recyclable at Kerbside?	
	Shoes, bags, belts	No	No
	Non clothing textiles	No	No
	Not recyclable or reusable textiles	No	No
5. Other Combustible	Carpet and underlay	No	No
	Furniture	No	No
	Mattresses	No	No
	Nappies	No	No
	Other Absorbent hygiene products (AHPs)	No	No
	Wood and cork	No	No
	Other combustible	No	No
6. Other Non-Combustible	Stones and rubble	No	No
	Plasterboard	No	No
	Other non-combustible	No	No
7. Glass	Glass beverage containers > 750ml - single format	Yes (Dry Recycling)	Yes (Dry Recycling)
	Glass beverage containers > 750ml - multipack	Yes (Dry Recycling)	Yes (Dry Recycling)
	Glass beverage containers < 750ml - single format	Yes (Dry Recycling)	Yes (Dry Recycling)
	Glass beverage containers < 750ml - multipack	Yes (Dry Recycling)	Yes (Dry Recycling)
	Glass bottles and jars -not beverage	Yes (Dry Recycling)	Yes (Dry Recycling)
	Glass non-packaging	No	No
8. Putrescibles	Garden waste	Yes (Garden waste)	Yes (Garden waste)
	Soil	Yes (Garden waste)	Yes (Garden waste)
	Inedible food waste	Yes (Food waste)	Yes (Food waste)
	Potentially edible food waste	Yes (Food waste)	Yes (Food waste)
	Edible food waste	Yes (Food waste)	Yes (Food waste)
	Cooking fat	No	No
	Liquids	No	No
	Other organic	No	No
9. Ferrous Metal	Ferrous drinking cans-single	Yes (Dry Recycling)	Yes (Dry Recycling)
	Ferrous drinking cans-multipack	Yes (Dry Recycling)	Yes (Dry Recycling)
	Ferrous tins	Yes (Dry Recycling)	Yes (Dry Recycling)

Main Categories	Sub-categories	Communal	Kerbside
		Recyclable in communal service?	Recyclable at Kerbside?
	Ferrous aerosols	Yes (Dry Recycling)	Yes (Dry Recycling)
	Other ferrous items	No	No
10. Non-Ferrous Metal	Non-ferrous drinking cans-single	Yes (Dry Recycling)	Yes (Dry Recycling)
	Non-ferrous drinking cans-multipack	Yes (Dry Recycling)	Yes (Dry Recycling)
	Non-ferrous tins	Yes (Dry Recycling)	Yes (Dry Recycling)
	Non-Ferrous aerosols	Yes (Dry Recycling)	Yes (Dry Recycling)
	Alu foil	Yes (Dry Recycling)	Yes (Dry Recycling)
	Other non-ferrous	No	No
11. Waste Electrical and Electronic Equipment	White goods	No	No
	Other electrical items	No	No
	Computers and televisions	No	No
	Other electronic items	No	No
	Mobile phones	No	No
	Other small electronic items	No	No
12. Potentially Household Hazardous Waste Items	Water based paint cans	No	No
	Other paint cans	No	No
	Batteries	No	No
	Other Hazardous Waste	No	No
13. Fine Material	<10 mm Fines	No	No
14. Recycling sacks	Recycling sacks	No	No

Appendix 2 Potential impact of EPR and DRS schemes

Table 20: EPR and DRS Impact

Main Categories	Sub-categories	Potentially included in DRS?	Potentially included in EPR?
1. Paper and Card	Recyclable paper packaging	No	Yes Packaging
	Recyclable paper non-packaging	No	No
	Thin card packaging	No	Yes Packaging
	Thin card non-packaging	No	No
	Corrugated card packaging	No	Yes Packaging
	Corrugated card non-packaging	No	No
	Drink cartons (Tetra Pak)	No	Yes Packaging
	Kitchen roll and tissues	No	No
	Food contaminated P&C	No	Yes Packaging
	Other non-recyclable paper and card packaging	No	Yes Packaging
	Other non-recyclable paper and card non-packaging	No	No
2. Plastic Film	Carrier bags	No	Yes Packaging
	Black bin bags	No	No
	Plastic film packaging	No	Yes Packaging
	Plastic film non-packaging	No	No
3. Dense Plastic	Plastic bottles-plain milk or not beverage	No	Yes Packaging
	Drink bottles < 750ml - single format	Yes (All in only)	Yes Packaging
	Drink bottles < 750ml - multipack	Yes (All in only)	Yes Packaging
	Drink bottles > 750ml - single format	Yes (Both options)	Yes Packaging
	Drink bottles > 750ml - multipack	No	Yes Packaging
	PTTs	No	Yes Packaging
	Other dense plastic packaging	No	Yes Packaging
Other dense plastic non-packaging	No	No	
4. Textiles	Clothing	No	Potential future scheme
	Shoes, bags, belts	No	Potential future scheme
	Non clothing textiles	No	Potential future scheme
	Not recyclable or reusable textiles	No	Potential future scheme
5. Other Combustible	Carpet and underlay	No	Potential future scheme

Main Categories	Sub-categories	Potentially included in DRS?	Potentially included in EPR?
	Furniture	No	Potential future scheme
	Mattresses	No	Potential future scheme
	Nappies	No	No
	Other Absorbent hygiene products (AHPs)	No	No
	Wood and cork	No	Potential future scheme
	Other combustible	No	No
6. Other Non-Combustible	Stones and rubble	No	Potential future scheme
	Plasterboard	No	Potential future scheme
	Other non-combustible	No	No
7. Glass	Glass beverage containers < 750ml - single format	Yes (All in only)	Yes Packaging
	Glass beverage containers < 750ml - multipack	Yes (All in only)	Yes Packaging
	Glass beverage containers > 750ml - single format	Yes (Both options)	Yes Packaging
	Glass beverage containers > 750ml - multipack	No	Yes Packaging
	Glass bottles and jars -not beverage	No	Yes Packaging
	Glass non-packaging	No	No
8. Putrescibles	Garden waste	No	No
	Soil	No	No
	Inedible food waste	No	No
	Potentially edible food waste	No	No
	Edible food waste	No	No
	Cooking fat	No	No
	Liquids	No	No
Other organic	No	No	
9. Ferrous Metal	Ferrous drinking cans-single	Yes (Both options)	Yes Packaging
	Ferrous drinking cans-multipack	Yes (All in only)	Yes Packaging
	Ferrous tins	No	Yes Packaging
	Ferrous aerosols	No	Yes Packaging
	Other ferrous items	No	No
10. Non-Ferrous Metal	Non-ferrous drinking cans-single	Yes (Both options)	Yes Packaging
	Non-ferrous drinking cans-multipack	Yes (All in only)	Yes Packaging
	Non-ferrous tins	No	Yes Packaging
	Non-Ferrous aerosols	No	Yes Packaging

Main Categories	Sub-categories	Potentially included in DRS?	Potentially included in EPR?
	Alu foil	No	Yes Packaging
	Other non-ferrous	No	No
11. Waste Electrical and Electronic Equipment	White goods	No	No
	Other electrical items	No	No
	Computers and televisions	No	No
	Other electronic items	No	No
	Mobile phones	No	No
	Other small electronic items	No	No
12. Potentially Household Hazardous Waste Items	Water based paint cans	No	No
	Other paint cans	No	No
	Batteries	No	No
	Other Hazardous Waste	No	No
13. Fine Material	<10 mm Fines	No	No
14. Recycling sacks	Recycling sacks	No	No

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