



Glasgow City Council

City Development Plan 2

Evidence Report

Infrastructure Audit- Waste Management

March 2024



Waste Management Infrastructure

1. Existing Waste Management Infrastructure

1.1 What is waste management infrastructure and how is it used? (consider local/strategic significance)

Waste management infrastructure includes all the systems and facilities involved in collecting, transporting, processing, and disposing of waste.

In the waste management hierarchy, at the base there is landfill, then other recovery such as incineration, followed by recycling, and at the top there is re-use, repair and prevention/reduction in consumption.

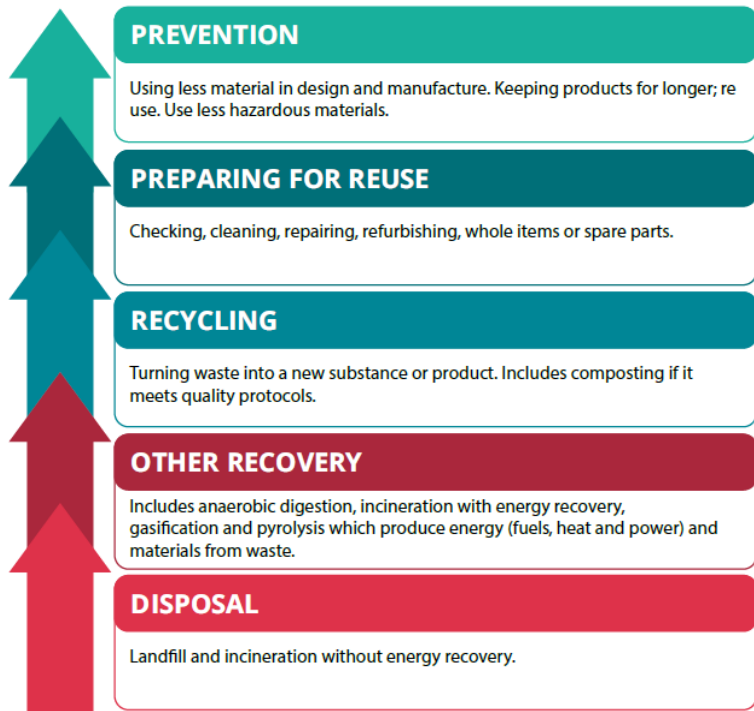


Fig. 3. Waste Hierarchy, Source: GCC Resource and Recycling Strategy 2020-2030

The [Resource and Recycling Strategy \(RRS\) 2020-30](#) was presented to the Environment, Sustainability and Carbon Reduction City Policy Committee on 2nd February 2021 and subsequently approved by the City Administration Committee (CAC) on 3rd June 2021.

The RRS responds to the Climate Emergency and seeks to reduce the carbon impact of waste on the environment. This will be achieved by improving the quality and quantity of materials captured for reuse and recycling.

The RRS complements other carbon reduction strategies, such as the Circular Economy Route Map for Glasgow 2020-30 and the Climate Plan.

Historically, waste management infrastructure in Glasgow was focussed on the bottom part of the waste hierarchy: - landfill, however, since the construction of the Glasgow Recycling and Renewable Energy Centre (GRREC), the management of waste is changing towards Energy from Waste and recycling.

Re-use and repair are often smaller in scale and have not yet reached their full potential/ become mainstreamed across the City and will require better support and to be scaled up to meet circular economy requirements. Measures taken to improve prevention of waste/reduction in consumption are generally information based and have differing levels of success and failure.

1.2 National Policy Landscape

The resource and recycling industry continues to undergo significant policy change. An update on the main policies is noted below.

Over Spring 2024, the Scottish Government is consulting on Scotland's Circular Economy and Waste Route Map to 2030. The route map sets out strategic direction for delivering a system-wide, comprehensive vision for Scotland's circular economy from now to 2030. Building on a first consultation (2022), they are consulting on key priority actions that will unlock progress across the waste hierarchy, including targets for reuse and recycling from 2025.

In 2023 the Scottish Government consulted on the Circular Economy (CE) Bill, which heavily featured waste and recycling proposals. Amongst other powers, the CE Bill will give ministers powers to set local recycling targets, and targets for the delivery of a circular economy to measure progress in reducing waste. In addition, the Code of Practice, which supports the Charter for Household Recycling, will be updated to improve consistency of services and increase the quality and quantity of recycling collected.

The Deposit Return Scheme (DRS) for single-use drinks containers, scheduled to go live on 16 August 2023, was delayed and is now due to be introduced, at the earliest, by October 2025. This impacted the proposed withdrawal of the council's kerbside glass collection service, a decision made whilst agreeing the 2023-24 budget at full Council on 16 February 2023.

In October 2023, the Scottish Environment Protection Agency (SEPA) published guidance on the management of Persistent Organic Pollutants (POPS). POPS is a group of hazardous chemicals which have recently been found in articles of upholstered domestic seating in quantities which exceed legal limits. POPS have a harmful impact on the environment and human health. This means that when affected items known as Waste Upholstered Domestic Seating (WUDS) become waste, they are subject to strict controls. This will impact the bulk waste collection service, clearance of these items from fly-tipping locations and the storage, transportation and treatment of these materials.

Extended Producer Responsibility (EPR) for packaging waste was due to be implemented in 2024 and will now not launch until October 2025. This policy will change the funding model for local authorities, as the cost of managing this material stream passes from local authorities and the public purse to businesses. Implementation of a twin stream recycling service will contribute towards the council implementing an 'efficient and effective' collection service, a key requirement of the new proposals.

Other pending policy changes which will impact how waste is managed, includes, but is not limited to:

- Ban on biodegradable material to landfill (end of 2025)
- Digital waste tracking (2024)
- Collection of textiles (2025)
- A ban on the sale and supply of single-use vapes in Scotland (1 April 2025)

1.3 Waste Management – Performance Monitoring

SEPA is responsible for reporting national waste statistics to the Scottish Government. As the waste regulator, SEPA also has a duty to assess whether waste management sites comply with the conditions of their licence or permit.

To do this, SEPA collects and verifies data from a number of sources, mainly:

- Operators of all licensed and most permitted waste management sites
- Operators of certain activities exempt from full waste management licensing
- Local authorities.

[*A strategy for improving waste data in Scotland*](#), also known as the Waste data strategy 2017, aims to deliver Scotland's current and future waste data needs as we move towards a more resource-focused future. Written in partnership by SEPA, Zero Waste Scotland and Scottish

Government, it outlines what we will achieve and how we are going to co-ordinate and deliver a plan that will support Scotland's transition to a more circular economy, where products and materials are kept in high value use for as long as possible.

1.3.1 Waste Management – Local Authority Performance Monitoring

Glasgow City Council submits waste data on an annual basis to SEPA. The annual waste data flow submission provides information on the waste managed by Glasgow City Council. The information covers data on the volume of waste recycled, landfilled, incinerated, and diverted from landfill.

In 2022 GCC managed 293,000 tonnes of household and commercial waste, this was a decrease of approximately 24,000 tonnes from the previous year.

The household waste managed by the Council was 244,483 tonnes in 2022. After SEPA validation it was confirmed that GCC recycled 27.6% of this waste. The other diversion rate was 47.4% (incineration of waste to energy at the GRREC) and the landfill rate was 25%.

Glasgow has seen a significant reduction of waste landfilled over the past 10 years. In 2013 GCC landfilled 73% of household waste managed. This has reduced to 25% in 2022 and is expected to decrease further in 2023. This is largely due to the Glasgow Recycling and Renewable Energy Centre (GRREC), developed in partnership with Viridor, which received full service in January 2019.

Performance monitoring of waste material types, tonnages collected, and processing methods, will continue to provide concise information that drives strategic decisions for managing household waste within the city.

1.3.2 Waste Management – Private Sector Performance Monitoring

There is a gap in the data and analysis for waste arising out with the waste collected by the local authority.

The [Circular Economy & Waste Route Map to 2030 Consultation](#) confirms (p.67) that there is currently no detailed data or analysis of commercial waste at a national level so it is unknown how much recyclable material is contained in residual commercial waste. The Consultation proposes a piece of work with Zero Waste Scotland, SEPA and the commercial waste and resources sector to conduct a national compositional study of residual waste from commercial premises by 2025/26, to identify priority materials, products and sectors for waste prevention and recycling interventions. This will help to account for current and future waste composition, including the impact of policies such as the Extended Producer Responsibility and the Deposit Return Scheme. To support this process, ZWS has published a report on a survey to scope the existing data availability and practices within the commercial recycling and waste landscape, helping to explore the challenges and opportunities around delivery of a national compositional study.

2.Capacity and Condition

2.1 Capacity in Glasgow

Every year SEPA provides an estimate of the national shortfall in waste management infrastructure capacity required to meet the targets set out in [Making Things Last: a circular economy strategy for Scotland](#). These estimates are intended to help authorities collectively plan for the waste management infrastructure. The figures below indicate that the volume of waste accepted in Glasgow City in 2022 was significantly lower than the annual capacity for Glasgow City in 2022 signalling that superficially there is not currently a shortfall in capacity within the City, however more granular analysis of the data is required to better understand this in the context of developing the Circular Economy in order to draw firmer conclusions about whether there is a shortfall in capacity in certain types of sites and an over supply in others.

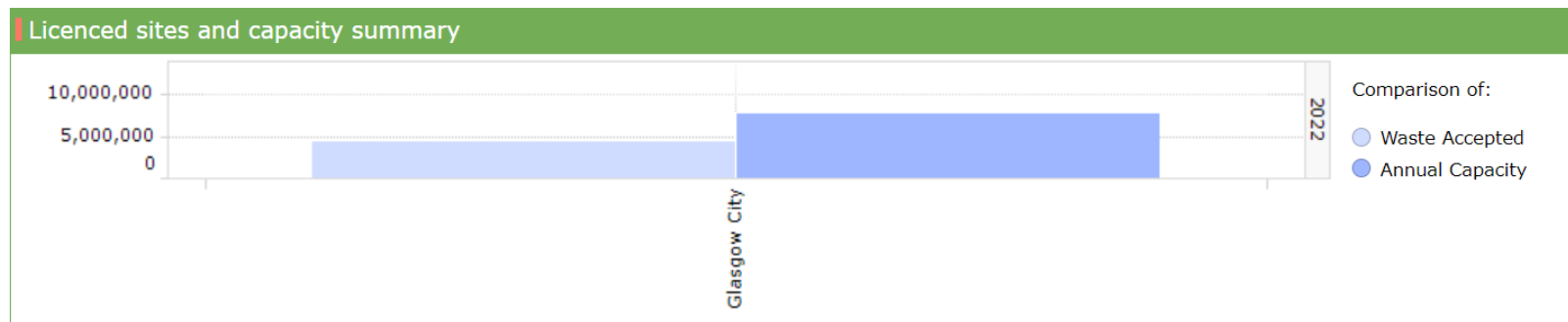


Fig. 4 Licenced Waste Sites and Capacity summary for 2022. Source: SEPA Waste Sites and Capacity Tool

Waste sites and capacity summary table

Site Activity	Year	Number of Sites	Annual capacity (tonnes)	Waste accepted (tonnes)
Civic amenity / Transfer station	2021	4	468,000	200,676
Incineration	2021	1	385,440	
Incineration / Anaerobic digestion / Other treatment	2021	1	200,000	143,963
Landfill (not operational)	2021	1	0	
Landfill / Other treatment	2021	1	500,000	413,795
Metal recycler	2021	22	387,217	401,214
Other treatment	2021	5	974,999	2,573,193
Transfer station	2021	31	4,504,290	561,087
Transfer station / Other treatment	2021	1	75,000	
Grand total		67	7,494,946	4,293,928

Fig. 5. Glasgow City Waste Sites & Capacity Summary Table for 2021. SEPA Waste Sites and Capacity Tool

In areas where there is a capacity shortfall, it is allocated to groups of local authorities or strategic development plan areas across Scotland. SEPA state that these allocated capacities should not be treated as a limit and should be used in conjunction with [Scottish Planning Policy](#) (with particular reference to pages 41-44) and associated [planning and waste management advice](#). It is recognised that authorities can work in a number of arrangements spatially and operationally to deliver new capacity not just in the groupings presented in the tables. Revisions to the data are handled as per [SEPA's correction policy](#). The publication schedule is set out on our [Waste data reporting page](#).

<https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-site-information/>

There is a role here for the forthcoming Regional Spatial Strategy (RSS) to look at capacity across the City Region and with a particular spotlight on the opportunity to grow the Circular Economy.

2.2 Condition- Local Authority Provided Waste Management Services

The NRS operational property estate supports the delivery of frontline services, including cleansing, waste management and recycling with a focus on the waste hierarchy.

The existing estate has been reviewed in the [NRS Depot Strategy](#) to ascertain its condition, geographic spread of operational locations and the fitness for purpose of the assets in relation to current and emerging best practice. In addition, the review has also considered the

feasibility of extending the service life of existing facilities, how to improve staff working conditions and how to provide a service focused approach to property management and investment through a programme of targeted investment works.

The GCC Resource and Recycling Strategy 2020-2030 outlines key infrastructure achievements from the 2015 Waste Strategy and Action Plan, namely:

- the delivery of the Glasgow Recycling and Renewable Energy Centre (GRREC) in partnership with Viridor, which received full service in January 2019;
- provision of new infrastructure and increased recycling capacity at flatted properties via the Bin Replacement Programme;
- installation of new litter and recycling on the go bins;
- the introduction of food waste collections; and expanded commercial waste recycling collections.

The focus of the new strategy is to make a significant contribution towards tackling the climate emergency and build more resilient and efficient waste and recycling services, with a greater focus on recycling and reuse. The Strategy emphasises that behaviour change is required to treat all waste as a valuable resource and manage it accordingly to maximise resource efficiency.

Existing Council facilities are being upgraded/repurposed to meet domestic recycling requirements that fall within the remit of the Council. Several key initiatives have been successfully delivered across multiple waste transfer facilities. Whilst investment is focussed on essential repair and maintenance activities, opportunities to improve the overall layout and operation of transfer facilities have also been achieved; a key action of the Resource and Recycling Strategy.

Examples of investment includes the construction of new bays for the storage of recyclable material at several properties, including at Blochairn for material collected via the bin hub project, the provision of signage, skips and compactors at the household waste recycling centres, and the removal of a redundant weighbridge at Polmadie to improve traffic management.

Significant work is on-going at the Shieldhall depot to replace a retaining wall, the floor and electrical remedial works.

2.3 Condition- Private Sector Waste Management Services

SEPA's Waste Sites and Capacity Tool provides an overview which shows the licensed waste management sites within the City but makes no interpretation or analysis of the condition of these sites so it is not possible to know the condition of the waste management sites within the City because the information is not available.

It is expected that additional facilities will be required to meet circular economy objectives which will lead to the growth of the private waste management sector within the City and the City Region as directed by the Regional Spatial Strategy (RSS).

2.4 Condition-Other Waste Management Services from the Waste Hierarchy

Prevention

Zero Waste Scotland (ZWS) exists to lead Scotland to use products and resources more responsibly, focusing on where the greatest effect on reducing climate change together can be achieved through responsible consumption, responsible production and maximising value through waste. ZWS uses evidence and insight, to inform policy and motivate individuals and businesses to embrace the environmental, economic, and social benefits of a circular economy.

NRS works closely with ZWS and partners to reinforce messaging on waste prevention in relation to a number of waste sectors across the City.

Preparing for Re-Use

The re-use sector within the City is currently small and is shown on the [Share and Repair Network map](#) and the [Circular Communities Map](#) re-use network online.

3. Compatibility with Investment Hierarchies

On the basis of the information known which relates to local authority municipal waste management, the sector's proposed investment would appear to be compatible with the Scottish Government's Investment Hierarchy and the NTS2 Sustainable Investment Hierarchy.

The [NRS Depot Strategy](#) provided an asset review which in relation to the Scottish Government's Investment Hierarchy, determined future need, examined the opportunity to maximise the useful life of the existing assets through maintenance, sought to re-purpose and co-locate on existing licensed waste management sites and at Queenslie, where they have identified a need to invest to replace and upgrade existing facilities, have provided a clear justification for doing so.

When the asset review is compared against the NTS2 Sustainable Investment Hierarchy, for strategic locations it will always be necessary to travel but the review clearly sought a geographic spread of waste management facilities across the City which it seeks to maintain and ensure safe operation for. The review aimed to make better use of existing capacity and identified targeted infrastructure improvements to deliver a better waste management service to the people of Glasgow.

Proposed Waste Management Infrastructure

4.Future Needs

The Council's future physical requirements are set out in the [NRS Depot Strategy](#) which went to Committee in August 2023. An update on the Council's Resource & Recycling Strategy 2020-2030 was provided to Committee in January 2024 [Resource & Recycling Strategy 2020-30 Update](#) and [Resource & Recycling Strategy 2020-30 Action Plan Update](#) which references future areas of work including continued prevention and behaviour change and further developing re-use opportunities for household goods and re-use and recycling of textiles.

It is clear that overall, there needs to be increased focus on the upper part of the waste hierarchy to influence behaviour change by putting greater emphasis on Prevention and Re-use.

NRS is currently exploring options for the implementation of a digital waste tracking system upon completion of DEFRA research project. Digital Waste Tracking is due to be introduced in April 2025 and there has been liaison with the council's weighbridge software provider to determine viability of this system to contributing to fulfilling Council requirements on this. Confirmation from DEFRA there will be no requirement to integrate with existing software as it will be a standalone web-based application.

A significant transformation is required to mainstream circular economy practices across every sector of the City. This will become clearer as the Circular Economy Route Map moves into its implementation phase.

There is limited data and no documented analysis of the status and future requirements of the private waste management sector operating within the City to clearly identify the wider future need but this sector is likely to grow with the opportunities emanating from the Circular Economy.

Prevention

While prevention itself is not strictly 'infrastructure' it is included here in order to complete the waste hierarchy and recognise that prevention of waste reduces the overall impact of waste on land use. Communication is a key aspect of prevention and increasing the effectiveness of overall service delivery.

NRS will continue to support the Glasgow City Food Plan and Scottish Government Food Waste Reduction Action Plan to reduce food waste arisings in the city.

Further approaches to preventions are currently being discussed at a national level as part of the evidence presented to the Net Zero, Energy and Transport Committee for the Circular Economy Bill.

Re-Use

As Circular Economy work progresses, it is expected that there will be a growth in the number of sectors involved in the share, repair and re-use economy across the city, which could see an increased requirement for retail unit, industrial units and storage. NRS in conjunction with the Council's Circular Economy Route Map will undertake an education and awareness campaigns to promote the re-use of household goods.

Recycling

A strategic review of the NRS property estate has identified the need to redevelop and improve the assets at key operational locations.

An early outcome of the review identified a critical aspect of the planned property re-development being the construction of a new Materials Recovery Facility (MRF) to support delivery of the Resource and Recycling Strategy. A new, fit-for-purpose, MRF will provide a processing outlet for separately collected recyclable containers (plastic tubs, bottles, cans, etc) and fibre (paper and cardboard) as the council implements improvements to frontline recycling services.

The review identified the existing facility at Easter Queenslie as the preferred property for re-development as a centre for recycling excellence. It was agreed at the Depot Review Board, therefore, that phase 1 of the long-term depot review would deliver the new MRF, Material Transfer Station, re-configured Household Waste Recycling Centre (HWRC) and much-improved welfare and amenity facilities for frontline staff at Easter Queenslie.

A consultation on the collection of textiles has still to be undertaken by the Scottish Government. NRS will maintain a watching brief on this Circular Economy proposal.

Review of waste collection services to align with Charter for Household Recycling and Extended Producer Responsibility (EPR) for Packaging Waste to be completed in 2024. This includes: Completion of Options Appraisal for flats in 2023 • Introduction of twin stream recycling service, as required by the Code of Practice will commence in phases from March 2024 • Review of options appraisal by Eunomia for kerbside and communal properties in light of delay to DRS • Implementation of EPR has also been delayed. Implementation of the twin stream recycling service will assist in providing an 'efficient and effective service', a key requirement of EPR and accessing payments for managing packaging waste.

The delay on the implementation of the deposit return scheme (DRS) until October 2025 at the earliest means that the kerbside glass collection service, which was due to stop upon implementation of the DRS (2023/24 budget decision), will continue until further clarity is provided on the introduction of DRS.

The budget proposals for 2023-24 agreed to remove public collection points in areas where properties already had their own blue bin recycling service. Glass public collection points and textile collection points remain in situ. Options to include glass collection within future bin hubs is being assessed by consultants as part of the updated options appraisal for flats. Report expected early 2024. Delay on the introduction of the

Deposit Return Scheme, which included glass as a target material, will influence future public collection point glass provision and the appearance of the bins.

In 2023, in conjunction with Zero Waste Scotland and external consultants completed an Options Appraisal (OA) on the collection services for flats. An OA had already been completed for kerbside properties in 2022. The OA for flats aimed to understand the impact of the DRS on Glasgow's waste collection services and assess options to improve performance in the context of the Household Recycling Charter and the supporting Code of Practice and other policy drivers. As a result of the delay to the DRS, additional modelling is being undertaken and an updated report, from the consultants, is expected early in 2024.

New Bin Hub Infrastructure was introduced in 2023 within Pollokshields (Jul – Aug), Haghill (Oct), and Berkely Street in Finnieston (Dec) which provides a new waste and recycling collection infrastructure for flats- a total of 98 bin hubs have been installed, serving c.2,400 properties.

The bin hubs have been fitted on the roads, which replaced stand-alone bins sited on pavements and bins located within tenement backcourts. A twin stream recycling service was implemented, expanding the range of materials collected, and food waste bins were re-introduced. In addition, collection frequencies for all material streams have increased and residents are able to access replacement food waste liners and caddies at local collection points. Installation of this new infrastructure was accompanied by a communication campaign, including face-to-face events with residents in the local area.

The new hubs are providing a more effective and efficient collection service and the quality of the material collected within the fibre and container bins is better than the current dry mixed recycling service within the blue bins. Participation within the food waste collection service remains challenging, and additional communications and a survey of residents will be undertaken in 2024. If successful, this could provide a model to be expanded to other parts of the city.

NRS to liaise with Houses in Multiple Occupation (HMO) officers to support the enforcement of new Houses in Multiple Occupation (HMO) licensing conditions to promote recycling and improve bin provision. This action has yet to start but is due in 2025. NRS to liaise with HMO officers as service changes are implemented at flats e.g. twin stream recycling introduction.

Strengthen partnership working with housing associations, factors and private sector landlords to improve the bulk uplift service. Booking system fully integrated for access to transfer stations by housing associations, charities and traders. Engagement with all housing associations (HA) to highlight the implication of Persistent Organic Pollutants within Waste Upholstered Domestic Seating, which will impact the collection of bulk waste for HA.

In October, the permit system for the collection of garden waste approved at full Council in February 2023 went live. Approximately 21,000 permits were purchased in 2023, generating over £1m in revenue, and a second tranche of applications is expected at the start of the growing season in early Spring. There is c.120,000 kerbside properties within Glasgow and based on the experience of local authorities who already implement a charge, a 30-35% uptake is estimated within Glasgow.

Other Recovery

Explore alternative treatment options of non- target recyclable material output from the MRF. e.g. chemical recycling of plastics, to review options to determine feasibility. There have been some initial high-level discussions with the Council’s residual waste treatment partner, Viridor, on this subject. End date 2025.

The Glasgow Recycling and Renewable Energy Centre (GRREC) continues to provide a valuable role as part of the RRS, extracting recyclable material and recovering energy from waste which would historically have been landfilled. A key initiative being developed at present is the role of the GRREC to support delivery of the Local Heat and Energy Efficiency Strategy (LHEES), which was approved by the City Administration Committee on 16th November 2023. Specifically, the GRREC has the capability to produce heat and support a district heating network; a key aspect of the LHEES.

Disposal

There is no known need for any further landfill within Glasgow. At a local authority level, reliance on landfill is being reduced year on year.

As the GRREC continues to treat the city’s residual waste, the tonnage of waste sent to landfill has significantly fallen over the last decade. The table below highlights the decreasing tonnage sent to landfill over the last 10 years. In 2023 the council sent c.15,000 tonnes direct to landfill from the transfer stations and from August to December 2023, only 17 tonnes have been sent directly. The remaining fraction is sent to landfill by contracted partners e.g. contingency measure at the GRREC.

Year	Household Waste to Landfill (Tonnes)
2014	164,811
2015	161,918
2016	156,337
2017	150,943
2018	167,502
2019	123,466
2020	78,826

2021	97,416
2022	61,219
2023	48,134 *

*data still to be validated by the Scottish Environment Protection Agency

5. Programmed Improvements

NPF4

NPF4 identifies 18 National Developments. National developments are significant developments of national importance that will help to deliver our spatial strategy.

These national developments range from single large scale projects or collections and networks of several smaller scale proposals. They are also intended to act as exemplars of the Place Principle and placemaking approaches.

National Development 4. Circular Economy Materials Management Facilities

This national development supports the development of facilities required to achieve a circular economy. This sector will provide a range of business, skills and employment opportunities as part of a just transition to a net zero economy.

The range and scale of facilities required to manage secondary materials and their circulation back into the economy is not yet clear. However, sites and facilities will be needed to retain the resource value of materials so that we can maximise the use of materials in the economy and minimise the use of virgin materials in order to reduce greenhouse gas emissions. This is particularly significant for the construction and demolition industries and decommissioning industry.

Careful assessment of specific proposals will be required to ensure they provide sustainable low carbon solutions, include appropriate controls, manage any emissions and mitigate localised impacts including on neighbouring communities and the wider environment.

Location

All Scotland.

Public Sector

- Plans currently impacted by the delay of the Deposit Return Scheme (DRS).
- **New Materials Recycling Facility (MRF) and associated processing equipment at Easter Queenslie.** Existing Recycling facility will be upgraded to become a centre of excellence for waste management and recycling. Glasgow City Council has provided £20m of capital funding approved as part of the Council's 22/23 capital budget for the Easter Queenslie project and has secured approximately £21m of external grant funding through the Scottish Government's Recycling Improvement Fund, which is administered by Zero Waste Scotland. The grant will support improved recycling services in Glasgow through a combination of frontline recycling service changes and new treatment infrastructure. This is the largest grant allocation to any single Local Authority in Scotland. £17m of this grant is specifically allocated for the construction of a new Materials Recovery Facility Building and associated processing equipment as part of the wider re-development of the council's Easter Queenslie property. Demolition and enabling works have commenced on site, and will continue on a phased basis in tandem with ongoing design development. Decant of operational staff based at Easter Queenslie will commence in late Autumn 2023. This will facilitate site enabling and clearance works, priming the area for re-development. Construction of the new depot commences autumn 2024, with full completion planned autumn 2026. facility to improve the re-use of household goods will be incorporated as part of the re-development. .More information in [NRS Depot Committee Report](#).
- **Household Recycling Charter and associated code of practice.** Glasgow City Council has signed up to the Household recycling charter and will be implementing changes to household recycling services in 2024. Kerbside properties will receive a twin stream recycling service, that will be implemented in a phased approach across the city. The twin stream service will see existing blue bins switch from a mixed recycling service to a dedicated bin for paper & card (fibre). An additional recycling bin will be provided to householders for the collection of containers. The containers will include drinks cans, plastic bottles tetrapak, plastic film and pot tubs and trays. The new recycling service will capture recyclable materials, that were not previously targeted in previous recycling services. The collection of additional recyclable materials will provide the opportunity to remove these materials form the residual waste stream and enhance recycling performance. This means that developers will be required to provide space for 5 wheeled bins (currently 4) at all new homes.

Private Sector

Programmed improvements are currently unknown.

6.Further improvements required?

There is a gap in the oversight and planning for holistic waste management in Glasgow. Glasgow City Council is responsible for household waste collection services and provides a limited commercial service, the remaining waste which is the majority of waste arising, is serviced by the private and third sectors, out with the scope of the local authority. All waste management sites (private and public) are regulated by SEPA. Zero Waste Scotland has a role to encourage increased recycling and circularity within the waste stream but there does not yet appear to be an organisation with an active and leading role for the strategic planning of waste infrastructure within cities, regions etc.

Prevention, Re-use, Repair and Reduction in consumption need to be targeted and elevated to the top of the City's waste infrastructure.

The circular economy envisages strategic sites and local sites but until there is a detailed look at routes for all waste streams within the city, the scale, opportunity and extent of the spatial requirement is unknown. There will be a need for to deal with waste arising to develop the circular economy within Glasgow, this could take the role of sorting, storage, processing, re-processing and manufacture. There is a clear role for the Regional Spatial Strategy (RSS) in aligning all of the neighbouring local authorities to deliver the most effective outcomes.

With the Council's stated intention to double the population of the City Centre, NRS Waste Services have committed to undertake a review of recycling and waste infrastructure with the City Centre Living Strategy to the manage expected increases in the city centre population to develop guidelines for the storage and collection of recycling and waste within the city centre.

NRS Waste team, along with the design team, are also considering the next large-scale phase of redevelopment as part of the programme and which is likely to be the creation of a centre of excellence in vehicle maintenance and repair. The current vehicle maintenance facilities at Jessie Street are limited in their size, scale, and future relevance. The nature of the future fleet is changing significantly with the current and future requirements for the servicing and repair of electric and hydrogen fuelled vehicles and therefore a new centre of excellence for vehicle maintenance will be required.

7.Deliverability (consider environmental, operational and funding constraints)

Proposed expansion of major local authority delivered waste infrastructure is currently targeted at locations which are already licensed as waste management sites.

Any new sites which are required as a result of the implementation of the Circular Economy Route Map will be considered for their appropriateness within the required boundaries of the regulators in terms of their impacts, including environmental impact (location, air quality, odour, noise, hours of operator, vehicle movements etc).

In NPF4 Policy 12 Zero Waste (d(v)) there is a duty to ensure financial mechanisms for restoration of sites. There hasn't been any further guidance yet on how this is best implemented but this will need to be considered as part of the consenting process for sites where appropriate.

CDP2 needs to consider/contain policy on:

- Incorporate the guidelines for the storage and collection of recycling and waste within the city centre that are developed by the City Centre Strategy and NRS Waste Services review of recycling and waste infrastructure to manage expected increases in the city centre population.
- NPF4 new duty to ensure financial mechanisms for restoration of sites Policy 12 Zero Waste (d(v))- need more advice from Scottish Government on policy 12 and whether new policy and/or guidance needs to be developed for Glasgow in CDP2.
- Map all known locations for existing, planned and aspirational waste management infrastructure to support the circular economy
- Map all known locations for existing, planned and aspirational Energy from Waste (EfW)- links to LHEES
- Need to discuss with Circular Glasgow/ZWS/NRS areas required for circular economy type zones- clusters of circular business, areas for depositing and storing items for reuse (large scale materials, small items, mapping of repair/share/re-use repositories? Any thoughts from the Circular Glasgow Group (Chamber of Commerce)?

Proposed Consultations

Infrastructure	Internal	Key Agencies	Other External
All Infrastructure	Mandy MacDonald (Infrastructure & Development) Susan Rutherford (CDP - Developer Contributions)		
Waste management	Amanda Waugh (CDP) David McCulloch (NRS Head of Recycling, Street Scene & Waste Management) Gary Beacham (NRS)	SEPA	Scottish Environmental Services Association (SESA) Resource Management Association Scotland (RMAS)
Recycling	Scott Armstrong (Assistant Group Manager for Waste Management & Recycling) Adam Clarke (Assistant Group Manager for Waste Management & Recycling)	SEPA	Scottish Environmental Services Association (SESA) Resource Management Association Scotland (RMAS)
Circular Economy	Gavin Slater (NRS Head of Sustainability) Rania Dimou (Sustainability)		Zero Waste Scotland Glasgow Chamber of Commerce Circular Communities Scotland