Appendix 1: A Draft Municipal Resources and Waste Strategy for Public Consultation

FRITH RESOURCE MANAGEMENT

A Draft Resources & Waste Strategy for Public Consultation

Acknowledgements:

Frith Resource Management would like to thank the essential contributions from waste management officers at Nottingham City Council for their contributions through the development of this project.

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Foreword

[TBC – to be written by Council member / representative]

Executive Summary

The first Waste Strategy for Nottingham '**A Waste-Less Nottingham**' (2010-2030) was originally written in 2010. The progress made since this time and rapidly changing approaches to resource and waste management has warranted a review of the Strategy to bring it up to date and reflect current global thinking.

This updated draft Resources and Waste Strategy (R&WS / the 'Strategy') outlines the intentions for the recycling and waste management service which will be delivered by Nottingham City Council from 2022 up to 2050. The vision of the Strategy is:

"The Resources and Waste Management Strategy aims to deliver a high-quality service driven by the need to conserve resources, protect the local environment and reduce carbon emissions in line with the Councils carbon neutral policy for 2028 and beyond. This means reducing the amount of waste that is generated; through prevention, reuse, repair, recycling and recovery."

This vision is supported by a number of objectives and ambitions which are set out in this document.

The way that waste and recycling is managed in Nottingham is influenced by both national policy and legislation. The UK Government has set key targets for recycling, waste reduction and the amount of our waste that is sent to landfill. We are already ahead of the national targets for sending less than 10% of waste to landfill, in particular due to the City Council's approach to energy recovery at the Eastcroft Energy from Waste (EfW) plant. However, Nottingham City Council currently fall below the national average recycling rate of 43.4% for 2020/21, reporting a rate of 23.9% for the same year. Current Government targets aim for a 65% recycling rate by 2035. Analysis shows that 75% of items that are disposed of in general waste could be reduced, reused, or recycled in some way and as such we need to consider how our service can be changed to increase our performance, and reduce our demand on natural resources.

This draft Strategy has also been developed in consideration of local council outcomes including the Councils aspiration to achieve net zero carbon by 2028 and its commitment to make Nottingham a clean and connected community. Nottingham is a leader in the use of electric vehicles in its fleet, and in capturing the energy generated from the waste not recycled, through its electricity generation and district heating scheme. This draft Strategy introduces even more ways that we can reduce the carbon emissions associated with the recycling and waste management service, through avoiding waste production, repairing and reusing items and recycling more effectively. The potential net effect of the measures proposed within this draft Strategy is a reduction in the amount of carbon (as measured in CO_2 equivalents) of up to 3,400 tonnes of CO_2 eq. each year from the collection and management of wastes and resources in the city.

This document is the 'consultation draft' of the Strategy. Nottingham City Council are seeking views and feedback from its residents and communities, including businesses that use, or are impacted by this Strategy.

This document will be available for comments between XX and XX. We would encourage you to respond to this consultation online.

Contents

1 Introduction

1.1 What is a Resources & Waste Strategy?

This document is the consultation draft of the Resources & Waste Strategy ('R&WS' or 'Strategy') for Nottingham City Council 2022-2050

This draft R&WS is an update to the Waste Strategy 'A Waste-Less Nottingham' 2010-2030 which has been in place since 2010 and is the result of acknowledging changes to legislation, policy, global and local context affecting waste and street scene services which need to be reflected in an updated Strategy. This draft Strategy sets the foundations to deliver best value for residents and to update these commitments so that waste is managed as a resource that can be used again, rather than waste to be disposed of.

The draft Strategy outlines key objectives and ambitions for the future management of waste and recycling (also known as municipal waste) within the city and identifies important actions that could be undertaken to deliver these. The actions will be targeted to change how residents view their waste through engagement, education and policy decisions that can drive the changes required. As a result, the Council aims to improve the sustainability of waste management practices, make increased use of waste as a resource, ensure legislative compliance moving forward and improve our resident's environment.

Since our last Strategy a significant movement has been formed to create a global commitment to reduce carbon emissions. The publication of a national Resources & Waste Strategy for England and the introduction of the Environment Act 2021 has introduced new obligations on us all. By moving to a 'circular economy', materials and resources are kept in use for as long as possible (through design, reuse, repair, recycling), minimising waste and improving resource efficiency. This would not only help to protect the environment but also aim to improve the local economy.

As a Unitary Authority, Nottingham City Council (NCC) is the statutory Waste Collection Authority, (WCA), Waste Disposal Authority (WDA) and Principal Litter Authority responsible for waste and recycling in the city. This means that NCC are responsible for planning the collection, treatment (composting, recycling, and recovery) and disposal of waste and to ensure an efficient service delivery for residents and communities, including businesses.

The Council provides a range of services for the collection of municipal waste and litter. These include:

- Kerbside collections –recycling, garden waste, food waste and non-recyclable waste,
- A bulky waste collection service (e.g. sofas, mattresses, furniture and electrical items),
- Lenton Household Waste Recycling Centre (HWRC), Redfield Road
- Litter and dog waste bins,
- Street and road sweeping,
- Clearing of fly tipped waste

The updated draft Strategy describes the recycling and waste management services which could be delivered by Nottingham up to 2050. It covers the collection of waste and recycling (also known as

municipal solid waste (MSW)) that is generated by households and similar wastes from businesses and other organisations across Nottingham. The draft Strategy sets out:

- The policy framework at a national and local level which sets the context for resources and waste management
- The vision, aims and objectives required to deliver the aspirations of the Strategy
- The plans for delivery – how resources and waste could be collected from its residents and communities, treated and managed by the Council to achieve the aims and objectives.

This draft Strategy runs up to 2050, however it will be reviewed regularly at appropriate periods during this time. Reviews are needed to make sure the Strategy remains current and in line with national guidance.

This Strategy is a 'Consultation Draft'. For the next steps during and after the consultation, see section 5 'Consultation-Next Steps' in this document.

1.2 How is the service delivered now?

All residents of Nottingham City Council currently receive household collections of recycling, residual (general mixed 'rubbish') and seasonal garden waste on a fortnightly basis. Food waste is not currently collected separately. .Household bins must be presented for collection at the kerbside, nearest to the resident's property and not within the residents' property's boundary. Residual and recycling collections occur on alternating weeks.

All the main items suitable for recycling are currently collected together in one container (usually a wheeled bin). This is commonly referred to as a 'commingled' collection..

This material is then sent to a materials recovery facility (often referred to as MRF) which uses a range of equipment to sort and separate the recycling into the different materials streams which can then be sent for reprocessing and recycling.

Garden waste is collected free of charge from all households with gardens throughout the growing season. Each household with a garden is provided with one wheeled bin to collect organic waste including grass cuttings, hedge clippings, flowers, leaves, weeds and small twigs and branches. Households with larger amounts of garden waste can pay for an additional bin at a cost of £25 a year, per bin. This material is sent to a composting facility which turns the garden waste in compost, for use on land and to improve soil quality.

For any household waste that cannot be put into the recycling or garden waste collections, a wheeled 'rubbish' bin is provided, and this is also collected fortnightly.

This material is sent to the Eastcroft Energy from Waste facility[1] for incineration and energy recovery. Due to its central location in the city, steam generated by the incineration process is used to supply heat to over 5,000 households and a number of public and commercial premises. This provides low carbon heating for these premises. This process of dealing with residual waste reduces the Councils reliance on fossil fuels to meet the city's energy needs and any excess steam is used to generate electricity to export to the grid, power local businesses directly, and also; to operate the Eastcroft facility.

Collection Service Summary	Materials	Frequency	Potential impact of current Government thinking
Brown Bin with Grey Lid or larger recycling container	Recycling: Catalogues and brochures Paper Food and drink cans Plastic bottles Aerosols Newspapers and magazines Cardboard (broken down into a manageable size and placed in the bin) Large tins Plastic tubs, pots and trays Telephone directories Glass bottle and jars	Fortnightly	Increasing the range of materials collected to include plastic film and cartons, which the Council does not currently collect. The Council may need to move to a collection service where recyclable items are sorted into separate collection containers, changing the way that household recyclables are currently collected.
Brown Bin with Brown lid	Garden Waste Grass cuttings Hedge clippings Twigs Leaves and weeks Dead flowers	Fortnightly	n/a
Green Bin or larger general waste container	Residual Waste Any household waste that cannot be put out as part	Fortnightly	Food waste to be collected weekly and in a separate container.

[1] FCC Eastcroft EfW Energy from Waste (fccenvironment.co.uk)

	of your recycling collections		This would reduce the amount of residual waste generated in Nottingham

Nottingham City Council have been proud to deliver a cost-effective waste collection and disposal service for its residents. The Council has been a high performer in the diversion of waste from landfill, since the development of the Eastcroft Energy from Waste plant in 1972, which treats the residual waste collected from residents. In a typical year, less than 8% of waste is sent for landfill[2].

Trade Waste

Nottingham City Council also provide a 'trade waste' service which collects recycling and general waste streams from business across the East Midlands, in particular the Nottingham and Derby areas. The trade waste team serves over 6,500 businesses and averages over 12,000 collections per week[3]. The services available to businesses include collections of residual waste (commonly referred to as 'general waste' or 'rubbish'), recycling, separate glass collection, bulky waste (furniture, mattresses), and collections of any unused electronics (known as Waste Electric Electronic Equipment (WEEE)).

1.3 Where have we come from?

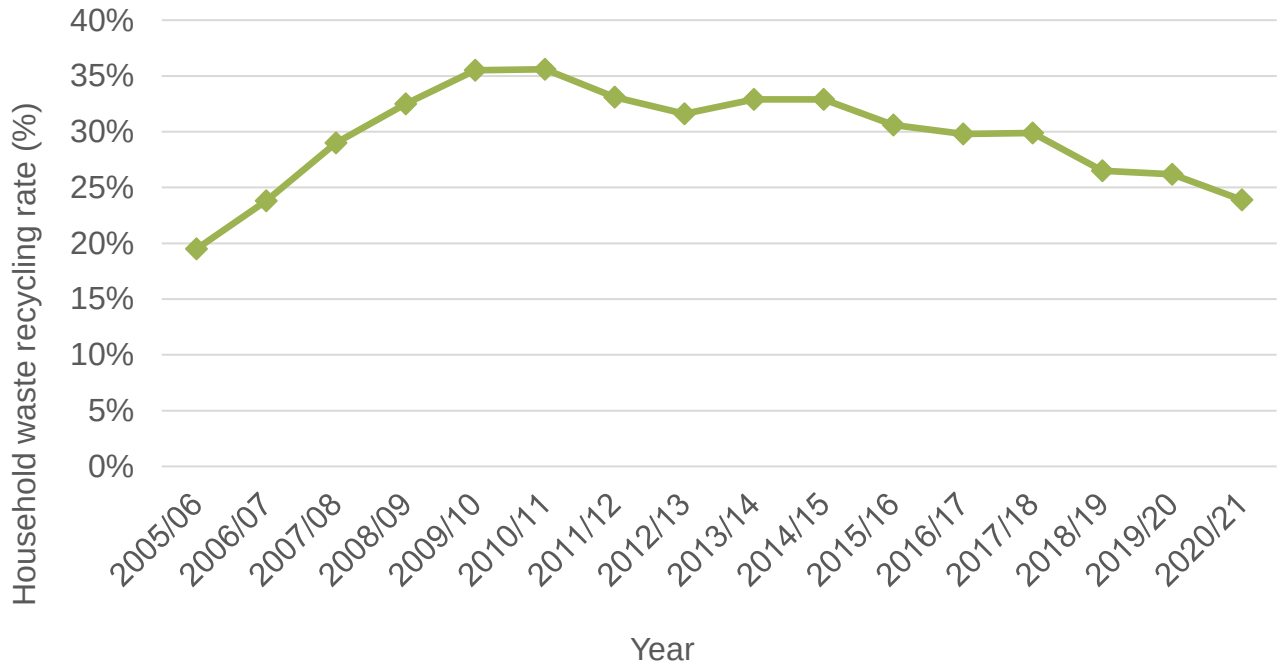
As of 2020/21, the recycling rate for Nottingham was 23.9%. This is well below the average national performance of 43.8% for the same period[4]. Between 2005/6 and 2010/11 an improvement in performance can be seen, however, since the peak performance of 35.9%, the recycling performance has steadily decreased over time. There are a number of factors which could be attributed to this decline, including a change in the definition of recycling (and as such the materials which could be counted towards the Council's recycling performance), impacts of austerity, and in recent years the effects of the Covid-19 pandemic (which has nationally shown a small decrease in recycling rate).

[2] To account for periods when the Eastcroft facility is shut down for routine maintenance.

[3] Some businesses will have multiple collections each week.

[4] However it should be noted that cities have more challenges to hit higher recycling rates than other types of Council area, the key reasons being: less garden waste, which is a significant contributor to recycling rate; more challenging housing types to collect from (e.g. flats) where recycling storage and separation can be more difficult, and; issues of effective communication with transient populations (e.g. students) or where there are multiple ethnicities.

Figure 1 – Recycling performance in Nottingham (2005 to 2021)



Financial pressures and a need to improve recycling performance can be conflicting requirements, however the Council is committed to improving performance to achieve higher levels of recycling across Nottingham, whilst delivering a cost-effective, quality-led service. This draft Strategy provides a focus on identifying solutions for resources and waste management which addresses these often opposing pressures.

1.4 What is in your bin?

Figure 2 shows the contents of a typical rubbish bin in Nottingham. It shows that over three quarters[5] of items that are thrown away by residents could be reduced, reused or recycled in some way. Materials found in the rubbish bin include materials that we would typically associate with recycling, for example, paper and cardboard, glass, plastic and metals. Other materials found in the bin include food waste (which makes up over a third of the bin) and waste electrical and electronic equipment (WEEE), which can be collected separately and have their resource value recovered.

By separating out these additional materials for recycling, residents of Nottingham could help the Council contribute to achieving the national recycling target of 65% for 2035[6].

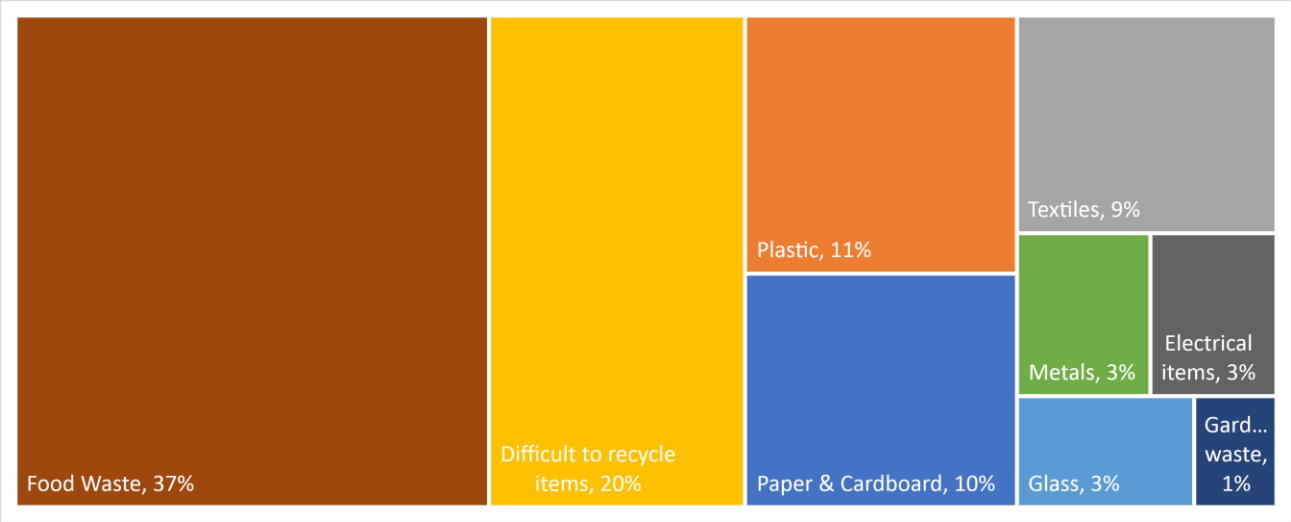
Furthermore, other items may be preventable or reused to stop them from becoming waste at all. This is preferable to recycling, and options such as using washable nappies, reusable water bottles for drinks and refilling containers with goods from a refill shop or station to avoid new packaging all help conserve

[5] Waste is measured by weight, therefore bulky but light items (like plastic) may appear to fill a lot of a bin (by volume), have a lower quantity when considered in terms of weight. Food waste conversely is dense (heavy) and therefore makes a large proportion of the waste composition as a result.

[6] This is included in Our Waste, Our Resources; A Strategy for England, Defra 2018, and includes wastes from commercial and industrial sources that are similar to household waste.

resources and avoid packaging and other wastes. It is great for the environment in other ways too, saving the carbon emissions associated with making new packaging or products.

Figure 2: Residual waste bin composition[7]



2 National and Local Policy & Influences

This section outlines the key national and local drivers which directly impact upon this draft Strategy. These policies focus on managing resources efficiently and effectively, keeping materials in use for as long as possible, encouraging the development of a 'circular economy' whilst supporting and working towards net zero (climate change) ambitions.

The proposals in this draft Strategy have been developed in consideration of these policies, in order to check that the Strategy can be practically implemented and that it either complements or does not diverge from any aims, as set out in other relevant policies.

The main influences at a national and local level are discussed in turn below.

2.1 National Drivers

2.1.1 Circular Economy

In a circular economy, materials and resources are kept in use for as long as possible (through design, reuse, repair, recycling), minimising waste and increasing what is known as resource efficiency[8]. A circular economy encourages a move away from the more traditional 'take-make-dispose' economy by targeting how products and services are designed, encouraging more sustainable consumption (e.g. using less raw materials) and ensuring waste is prevented and minimised at all levels of the supply chain by keeping resources in use for as long as possible. The EU Circular Economy Package (CEP), introduced

[7] Based on Acorn waste composition analysis undertaken in 2013.

[8] Resource efficiency means creating more with less, maximising the use of materials and services to function effectively, with limited waste and detriment to the environment

in 2018, provides a revised legislative framework, identifying steps for the reduction of waste and establishing an ambitious and credible long-term path for waste management and recycling. This has been largely transposed into UK Government strategy and policy and key elements within "Our Waste, Our Resources: A Strategy for England" (2018, see below).

2.1.2 25-Year Environment Plan

The 25 Year Environment Plan sets out the government long term management strategy to improve our environment. The Plan sets out interrelated environment targets relating to clean air, water quality, biodiversity, biosecurity, enhancing the natural environment and heritage and mitigating and adapting to climate change. The effective management of resources is one of the core goals of the Plan and the following targets are set for maximising resource efficiency and minimising waste:

- Using resources more sustainable and efficiently
    - *Maximising the value and benefits we get from our resources,*
    - *Doubling resource productivity[9] by 2050*
- Minimising waste
    - *Zero avoidable waste by 2050, and no food waste to landfill by 2030*
    - *Target of eliminating avoidable plastic waste by end of 2042*
    - *meeting all existing waste targets – including those on landfill, reuse and recycling – and developing ambitious new future targets and milestones*
    - *Eliminate waste crime and illegal waste sites over the lifetime of this Plan, prioritising those of highest risk, including litter*
    - *significantly reducing and where possible preventing all kinds of marine plastic pollution – in particular material that came originally from land*

2.1.3 Environment Act 2021

The Environment Act is a key piece of government legislation which aims to address fundamental environmental issues such as air and water quality, wildlife and climate. The first part of the Act is to provide measures to address environmental governance gaps following withdrawal from the EU and beyond. The Act puts into legislation a series of environmental principles and establishes an Office for Environmental Protection, which will have scrutiny, advice and enforcement functions. It also makes provision for the setting of long-term, legally binding environmental targets in four "priority areas" of air quality, water, biodiversity, resource efficiency[10] and waste reduction, along with the production of statutory Environmental Improvement Plans.

The Act will also be the primary legislation for a number of the key waste management measures in the draft R&WS. The provisions in the Act introduce an extended packaging producer responsibility scheme[11], the power to regulate for eco-design standards and resource efficiency information across a wider range of products, and amendments to the responsibilities and powers for separating and

[9] A measure of the total amount of materials directly used by an economy.
[10] Good resource and waste management improves 'resource efficiency'
[11] A system designed to make producers of packaging 100% responsible for the costs of managing the packaging at the ends of its life (e.g. its collection, recycling or disposal)

recycling waste. It also provides a framework for a deposit return scheme (DRS) for single use drinks containers[12]. The Act also provides the legislative mechanism for implementing aspects of the national Resources & Waste Strategy for England.

2.1.4 Resources & Waste Strategy for England

The national Resources & Waste Strategy for England, "Our Waste, Our Resources: A Strategy for England" (2018), is focussed on recycling quality and increasing recycling rates from households and businesses. It includes substantial reforms to municipal waste collection and management services, including requiring a common set of materials to be separately collected from households (in the case of NCC this means expanding the materials collected for recycling to include plastic film and cartons). This also includes proposals to mandate the separate collection of food waste for all Local Authorities in England. It also puts a greater responsibility on producers of goods and packaging to play their part in dealing with the products at the end of their life. New measures proposed include Extended Producer Responsibility for packaging materials (EPR) and the introduction of a deposit return scheme (DRS) for single use drinks containers.

The direction of the national strategy will have a significant impact on the services delivered in Nottingham through this R&WS.

2.2 Local Policy Drivers

This draft Strategy will also be implemented in recognition of local policies which both influence and affect its delivery.

The City first declared a Climate and Ecological Emergency in 2020. Nottingham has since committed to becoming the first carbon neutral city in the country, with a target for reaching this status by 2028. This means cutting carbon dioxide (CO_2) emissions from direct and indirect sources that's arising from the energy used across the city to near zero and offsetting any emissions that cannot be eliminated. The Nottingham 2028 Carbon Neutral Charter (CN28) sets out high-level objectives to achieve this target. Waste and resource management have a key role to play in supporting Nottingham's net-zero ambitions. This draft Strategy has been developed with the visions of this commitment in mind and is aligned to the aspirations of the Council to meet carbon neutrality by 2028. Further information can be found in the CN28 Strategy document.

Other policies influencing the draft Strategy include the Strategic Council Plan for Nottingham[13]. This Plan supports the aspirations set out within this document including the CN28 goal as one of the key Strategic Outcomes, promoting the use of refill stations across the City Centre to reduce plastic use and measuring percentage of household waste recycled as one of the key monitoring parameters. Outcome One focuses on providing 'Clean and Connected Communities' which directly links to waste and recycling, including the provision of street cleansing, clean up (and prevention of) fly tipping, collecting household waste and providing a year round commercial waste collection service. It also includes a commitment to maintain efficient fortnightly waste collections and bulky waste collections.

[12] A Deposit Return Scheme (DRS) aims to improve overall recycling and resource recovery by placing a redeemable deposit on 'in scope' materials. At the time of writing, it is understood that the DRS system implemented for England will be an 'all in' system which means it applies to all single use drinks containers (excluding glass, HDPE plastics, primarily milk bottles). The deposit is estimated to be a 20p value added to plastic and metal beverage containers

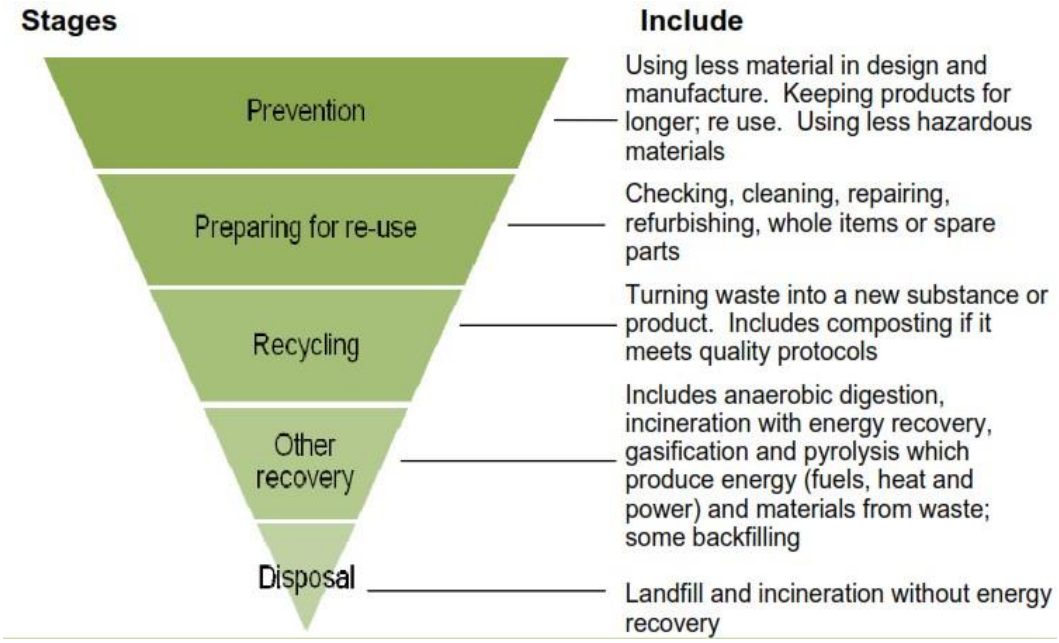
[13] full-strategic-council-plan-2021-23.pdf (nottinghamcity.gov.uk)

Nottingham City Council are also currently working with Nottinghamshire County Council to prepare a new Waste Local Plan which will provide the future planning strategy for waste management in Nottinghamshire and Nottingham to 2038. The Nottingham Growth Plan makes reference to Nottingham being one of the cleanest, greenest and least-car dependent UK cities. Key actions for growth include fostering enterprise (which provide opportunities for fostering a new circular economy), developing a skilled workforce and expanding the green energy supply, all of which will influence this draft Strategy.

2.3 The Waste Hierarchy

This draft Strategy is underpinned by the principles of the waste management hierarchy (Figure 3) that prioritises not producing waste in the first place, then reusing it followed by recycling and composting. It is recognised that even with all the measures in place there is still a requirement to manage non-recyclable waste and as a city we will do this by ensuring best value and through recovering energy from this residual waste fraction.

Figure 3 – The Waste Hierarchy



3 Setting a Strategy Vision and Objectives

By setting a vision and strategic objectives the Council can begin to develop a route-map to transform waste collection and waste disposal services for the city.

Our Vision

The draft vision of the Resources & Waste Management Strategy defines the intended direction of travel for the waste management services, and is as follows:

"The Resources and Waste Management Strategy aims to deliver a high-quality service driven by the need to conserve resources, protect the local environment and reduce carbon emissions in line with the Councils carbon neutral policy for 2028 and beyond. This means reducing the amount of waste that is generated; through prevention, reuse, repair, recycling and recovery."

4 How will we deliver the vision?

The following draft objectives provide the areas of focus for delivery of the vision:

1. Manage wastes as resources, using the waste hierarchy as a guide: to prevent wastes arising in the first instance; then reuse; then recycle / compost; then recover energy, and; finally to dispose of waste as a last resort.
2. To reduce the amount of waste landfilled, working towards zero waste to landfill.
3. Continually seek to reduce carbon emissions to improve performance and contribute to the City and Council ambitions on carbon emissions.
4. 'Lead from the front' and improve the environmental performance of activities within Council buildings and via services it provides, including the management of waste and resources.
5. Deliver high quality, customer focussed waste management services that are accessible and inclusive.
6. Work in partnerships with the community sector, private sector or other public sector bodies to expand the resource and expertise available to the municipal waste management service and engage with the residents and the customers of the service to promote environmental awareness and improve participation in waste reduction, re-use and recycling schemes.
7. Ensure that options facilitate / integrate the management of commercial, industrial and other wastes where it is environmentally, socially and economically feasible to do so.
8. Seek efficiencies and economies of scale through partnering and procurement to retain a cost effective service.
9. Utilise and improve existing infrastructure where it can contribute to sustainable waste management and innovate in the development of new infrastructure where required
10. Develop local solutions wherever practicable to minimise transport impacts of the service. The value of secondary raw materials / energy should be used locally where practicable.

This draft vision and objectives inform the rest of the draft Resources & Waste Strategy, and they were also influenced by national and local policy as outlined in Section 2.

5 How can the Strategy be delivered?

This section outlines the commitments proposed by Nottingham City Council to deliver the vision and objectives of the Strategy. The draft ambitions are designed to be compatible with local priorities including clean streets, CN28, local waste planning policy drivers detailed in the recently drafted Waste Local Plan whilst also supporting key outcomes of the Council Plan including Healthy and Inclusive and Serving People Well. The draft Ambitions are grouped into themes and include 17 stated ambitions.

Draft Strategy Ambitions		
Preventing Waste and Promoting Re-use	Ambition No. 1	Nottingham City Council will encourage a reduction in consumption by highlighting the environmental benefits of waste prevention and reuse. Through education and enforcement, residents and businesses will be encouraged to dispose of their waste correctly in order to reduce uncontained waste being left on the streets and prevent side waste (additional waste placed at the side of the relevant collection container, or bagged waste left on the street).
	Ambition No. 2	Nottingham City Council aim to continue working with the local businesses and community groups to expand and promote the development of repair and reuse services.
	Ambition No. 3	Nottingham City Council to work with the community and voluntary sector to identify opportunities for reuse or repair of suitable goods collected through the Household Waste & Recycling Centre and the Bulky waste collection service.
Enhancing Recycling	Ambition No. 4	Nottingham City Council will explore the potential expansion of the materials collected for dry recycling from its residents and businesses to ensure that the full range of recyclables can be collected from both the kerbside service and the Household Waste Recycling Centre service by 2027.
	Ambition No. 5	Nottingham City Council will continue to prevent recyclables from going into the residual waste collections, through engagement and restrictions on the amount of residual waste presented for collection in order to encourage segregation of waste for recycling.
	Ambition No. 6	Nottingham City Council will introduce and promote a separate weekly food waste collection to its residents.

Draft Strategy Ambitions		
	Ambition No.7	Nottingham City Council will procure suitable Anaerobic Digestion capacity to treat food waste collected from households in a manner that helps reduce carbon emissions from the city.
Managing Business Waste	Ambition No. 8	Nottingham City Council will develop its collection service from businesses and organisations to improve recycling performance and to contribute to the achievement of the national 65% recycling target by 2035, whilst remaining a high quality and competitive service.
Dealing with the Waste that is Leftover	Ambition No. 9	Nottingham City Council will continue to prioritise energy recovery and avoidance of waste to landfill for all waste that remains once material has been recycled, reused and composted.
	Ambition No. 10	Nottingham City Council will continue to extract more recyclables from residual waste to maximise the use of materials (at present this is metals and aggregate recovered from incinerator ash)
	Ambition No. 11	Nottingham City Council to continue to keep waste sent to landfill to under 8% of that collected, well in advance of the 10% national target for 2035.
Walking the Talk	Ambition No. 12	Nottingham City Council will lead by example by reviewing their internal purchasing activities and waste management services to promote waste prevention and encourage reuse and recycling within its internal operations.
Comms and Engagement	Ambition No. 13	Nottingham City Council aim to continue to proactively engage with residents, through a variety of mechanisms, to promote waste prevention, low waste alternatives, reuse and repair schemes in the city with the aim of reducing overall waste arisings and helping develop more sustainable lifestyles.
	Ambition No. 14	Nottingham City Council aim to continue to proactively engage with residents, through a variety of mechanisms, to ensure maximum participation in recycling services in the aim of improving kerbside recycling performance. This will include clear and effective communication regarding the recycling and waste collection service.
	Ambition No. 15	Nottingham City Council aim to provide more education in schools covering: sustainable living; the linkage between the 3 R's [reduce, reuse, recycle] and providing the resources we need as a society, and; how good management of resources helps to tackle climate change.
	Ambition No. 16	The Council will continue to provide clear and effective communication regarding waste prevention, reuse, repair and recycling services by promoting best practice behaviours which support the circular economy and contributes to the net zero aspirations of the Council.

Draft Strategy Ambitions		
Working towards Net Zero carbon in Nottingham	Ambition No. 17	Nottingham City Council will continue to expand its fleet of alternative fuel vehicles to reduce the carbon emissions of the service that are associated with waste and recycling collection and transportation to improve local air quality.

5.1 Preventing waste and promoting reuse

Preventing waste is the highest priority of the waste hierarchy and should be the foundation of any Resources & Waste Strategy. Preventing waste eliminates or reduces the adverse environmental impacts of waste generation and management. It also reduces our demand on the Earth's limited resources, which in turn reduces the carbon emissions associated with waste management activity.

This can be achieved by preventing waste from waste arising in the first place (avoiding the creation of waste or recycling) or by extending a product or services useful life through reuse or repair.

Waste prevention is most effective when it is targeted at a particular material, or at a sector level. This means that any action or communication can be individually targeted to address the specific issues, engage with relevant stakeholders, and seek the best opportunities for improvement to maximise effectiveness.

As such, in recognition that prevention should precede all other elements of resources and waste management, NCC will pursue the following ambition:

Ambition No. 1 – Nottingham City Council will encourage a reduction in consumption by highlighting the environmental benefits of waste prevention and reuse. Through education and enforcement, residents and businesses will be encouraged to dispose of their waste correctly in order to reduce uncontained waste being left on the streets and prevent side waste (additional waste placed at the side of the relevant collection container, or bagged waste left on the street).

We will work, through education, communication, engagement and our service design, to encourage residents to reduce the amount of waste they produce. Reducing the amount of waste produced reduces its burden on Council budgets and the taxpayer as well as having those broader benefits of reducing our carbon impact. At the most local level – at home – reducing what is put in the bin (perhaps by making decisions in the supermarket not to accept over-packaging or by using food waste to make compost) all contributes to the objective of reducing the amount of waste produced.

The analysis of what is in our residents bins indicates that the high rate of residual waste in the city is due to recycling materials being placed in the residual green bin. As a result, a significant number of residents are unable to present their bin with a closed lid and/or place additional bin bags either next to their bin or by public bins for collection. Over an additional million pounds of taxpayers money is spent each year addressing these practices. Not only does waste on streets look unsightly, it encourages pests as bags are easy to get into and often split, spilling the content on the street. Not having a closed lid on wheeled bins also has the same impact, with waste often escaping to the street. We are aware that, whilst education and communication are our preferred method of engaging with residents, there are times when enforcement is required to ensure compliance with our collection scheme. This is another

aspect of maximising participation and would support a change in behaviour where the communication campaigns have not had an impact.

Reuse is the second highest priority of the waste hierarchy and aims to extend the 'useful life' of a product or service, including through repair. Encouraging reuse and repair has wide ranging benefits which include saving money, conserving finite materials and lowering carbon emissions. Reuse and repair activities often support social and economic development, through skills training, employment and community volunteering.

Examples of reuse activity across Nottingham include:

- Bike Works Nottingham – a not for profit organisation which fixes bikes but also helps to repair and rehome unwanted bikes which helps community projects.
- Haven Housing Trust – accepts donations of good, clean furniture and household items.
- Furniture Project Nottinghamshire – accepts furniture, textiles, electrical items and kitchen appliances that are in a reusable condition.
- Nottingham Fixers – a group of volunteers who bring together people to share and develop repair skills, often through Repair Café events. Items repaired so far include clocks, bikes, radios, sewing machines, lamps and clothes.
- Sycamore Dining – a Community Interest company set up by City of Nottingham District Scouts which sources its meals from surplus food from the supply chain (working in Partnership with Fareshare, Tesco and Co-Op). The group provide social dining and meals at home services, and regular community events such as BBQs and training in food hygiene.

There has also been growing interest in refills as a means for reducing waste and there are a number of 'zero waste' shops set up across the city. The aim of these shops is to help people live more sustainability and reduce their impact on the environment by using reusable containers to purchase home staples such as pasta, rice, cereals, nuts and seeds or other domestic items like detergents, hand wash etc.

Ambition No. 2 –

Nottingham City Council aims to continue working with the local businesses and community groups to expand and promote the development of repair and reuse services.

Residents of Nottingham City are also able to engage in reuse activities at Lenton Household Waste and Recycling Centre (HWRC) on Lenton Industrial Estate. Residents can use this site to dispose of recycling and waste, however a number of the materials separately collected will be sent for reuse where possible, including waste electricals.

We recognise the integral role and huge benefit of working in partnership with key businesses and community groups to increase the use of repair and reuse, supporting this with the services provided by our HWRC. As such, we state the following aim:

Ambition No. 3 –

Nottingham City Council to work with the community and voluntary sector to identify opportunities for reuse or repair of suitable goods collected through the Household Waste & Recycling Centre and the Bulky waste collection service.

5.2 Enhancing recycling

Recycling uses fewer natural resources from the earth and less energy to produce the same new product. Recycling can also help to reduce greenhouse gases being released and waste being produced. The extraction of raw materials from the earth, material processing, manufacturing and transport are all stages in the process that use energy and emit greenhouse gases.

Recycling of waste can take several forms, the most recognised is the recycling of packaging type materials (plastics, cans, card and glass) and paper. This draft Strategy aims to improve the recycling of all of these materials, as well as to continue to compost collected garden waste and to introduce a food waste collection

The residents and communities of Nottingham have a range of materials collected for recycling as discussed previously. This draft Strategy sets out the intention for Nottingham to enhance this collection service to mirror the Government intention to have a standardised set of materials collected for recycling from each house and business across the Country. As described previously, this will include:

- Metals (cans, foil trays, foil, aerosols)
- Plastics (plastic film, bottles, trays, pots, tubs)
- Cartons (e.g. Tetra Pak)
- Card
- Paper
- Glass

The aim is that all of England has the same range of materials collected (by 2027) and that this will enable more targeted nationwide messages and standardised product labelling for recyclability to be established. Furthermore, residents moving from one area to another will know what materials can be separated for recycling (although there might be different colours or types of containers in which to separate them). For Nottingham, this would mean the collection of cartons and plastic film added to the list of materials already suitable for dry recycling.

The national R&WS proposes a preference for collection systems that can reduce contamination of recycling (the wrong materials etc.) and collect good quality materials through separate collections. The capture of quality recyclate is important to enable more materials to be reprocessed, supporting a circular economy. This, however, needs to be married with other Council requirements (e.g. a cost effective service) and housing requirements (e.g. sufficient storage capacity for containers and different recyclables). These issues are explored in the Options Appraisal.

In addition to these changes, Government is seeking to introduce a deposit return scheme (DRS) for all single use drinks containers (excluding bottles made of High-Density Polyethylene plastic, primarily milk bottles and glass). The DRS is likely to place an additional 20p charge (the deposit) onto bottles and cans containing drink, which then may be redeemed (returned) when the bottle / can is placed in an

authorised collection point. The collection points are likely to be at shops and supermarkets and are known as reverse vending machines, although alternative methods of redeeming deposits are also being investigated. The DRS scheme is still undergoing consultation but is due to be implemented from 2025. This could have the effect of changing consumer behaviour to an extent, also potentially reducing the amount of littering of containers (covered by the DRS) and may reduce the amount of recyclables and waste handled by local authorities.

As part of the wide-ranging national changes and to encourage greater resource recovery from waste, the Government are also intending to implement Extended Producer Responsibility (EPR) for all producers of packaging. EPR means that all packaging producers will need to pay for the costs of dealing with their packaging at the end of its life (e.g. when it is recycled or thrown away). In future (and this is intended to be implemented from 2024), packaging producers will be responsible for the net costs of collecting, handling, recycling, treating and disposing of packaging waste, by providing monies to local government equivalent to that cost. This, together with the DRS scheme, will also provide an incentive to product and packaging producers to consider how their products can be designed better for their resource recovery, for example by making them easier to recycle. Packaging that is hard to recycle will cost more for disposal which will ultimately cost the producer of that packaging. This approach helps the role of the Councils and should assist in improving resource recovery and recycling over the medium and long term.

As part of the development work undertaken to present this draft Strategy, we have considered different recycling collection systems for the city. The appraisal of different collection systems (see supporting Options Appraisal document) demonstrates a preference for maximising recycling by introducing some level of separation for dry recycling material at the kerbside. Subject to the national R&WS consultation responses, the current commingled collection of recycling may not be acceptable in the future. Further materials separation, alongside restricting the residual waste capacity to maximise participation in recycling performs well in the appraisal of options. The addition of a weekly food waste collection should also reduce the need for the current levels of residual waste capacity (see Ambition No.6 and 'What is in your bin' section of this Strategy).

Ambition No. 4 Nottingham City Council will explore the potential expansion of the materials collected for dry recycling from its residents and businesses to ensure that the full range of recyclables can be collected from both the kerbside service and the Household Waste Recycling Centre service by 2027.

When we examined a typical residual bin presented for collection, 27% of the materials contained in the waste were target materials for recycling and should have been placed in the recycling collection system instead. When additional materials are included for recycling collections (including food waste which accounts for another 37% of an average bin) to achieve national uniformity, more waste can be more easily recycled. Further communication and education with our residents to encourage and promote the right behaviours will ensure collection systems are accessed correctly and recycling capture rates will inevitably improve.

The Council will adopt an evidence based approach to ensure the right bins are provided to maximise participation in recycling collection systems and to discourage the presentation of side waste.

Ambition No. 5 –. Nottingham City Council will continue to prevent recyclables from going into the residual waste collections, through engagement and restrictions on the amount of residual waste presented for collection in order to encourage segregation of waste for recycling.

After preventing food waste occurring (for example through meal planning, use of leftovers in recipes etc.), the next most important method of reducing carbon emissions from food waste is to separately collect and treat it. The most effective way of doing this is to collect food waste from households and businesses on a weekly basis, as a separate material stream, and to process the food waste in Anaerobic Digestion (AD) facilities. Anaerobic digestion is a process that takes place in sealed vessels in the absence of oxygen. Food waste is fed into the vessels which act like a digestion process, breaking down the food waste using bacteria (in a similar way and a slightly higher temperature than your stomach digesting food). The waste degrades and releases a flammable biogas (which is roughly half methane and half carbon dioxide), this gas is then usually combusted in a gas engine to generate electricity, which can be fed back into the national grid as renewable electricity. The gas can alternatively be used to fuel vehicles with 'biomethane' or, after further processing, as an input into the gas grid. The remaining residue from the food waste is reduced to a slurry and can be, after some further 'maturation' (like a composting process), applied to land as a soil conditioner or fertiliser.

The Government is requiring (through the Environment Act) all households to have a separate collection of food waste, on a weekly basis, from the mid 2020's.

Energy recovery (energy from waste, or the use of anaerobic digestion for managing food waste) has a supporting role in reducing the need for landfill. However, in accordance with the principles of the waste hierarchy, the priority should always be to reduce, re-use and recycle (in order of preference) as much as possible.

As part of the options appraisal supporting this draft Strategy, we have modelled the introduction of separate food waste collections across the city and state the following ambitions:

Ambition No. 6 – Nottingham City Council will introduce and promote a separate weekly food waste collection to its residents.

Ambition No. 7 – Nottingham City Council will procure suitable Anaerobic Digestion capacity to treat food waste collected from households in a manner that helps reduce carbon emissions from the city.

5.3 Managing Business Waste

Residents cannot deliver the aspirations of this Strategy alone. It will take the support and action of its businesses and wider communities too.

Nottingham City Council operate a well-established trade waste collection service, providing collection services for recycling and residual waste for many businesses across Nottingham.

Aligning the options for managing resources and waste in commercial settings in a manner similar to that which residents are used to at home helps to ensure consistency, improve recycling behaviour and therefore increase overall recycling performance. As such, the Council states the following ambition:

Ambition No. 8 – Nottingham City Council will develop its collection service from businesses and organisations to improve recycling performance and to contribute to the achievement of the national 65% recycling target by 2035, whilst remaining a high quality and competitive service.

5.4 Dealing with the waste that is left over

Only once the options across the higher aspects of the waste hierarchy (prevention, reuse, repair, recycling) have been exhausted, will Nottingham address look to how to manage the waste that is left over.

Suitable residual waste is transported to the Eastcroft Energy from Waste (EfW) plant after recyclables have been taken out (either by our householders, at the HWRC or at other waste recycling facilities). This residual waste is incinerated to maximise energy recovery. Since 1972, Nottingham City Council have provided an EfW solution for the residual waste left over after recycling to keep waste away from landfill[14].

Any residual waste not suitable for Eastcroft is processed to produce Refuse Derived Fuel (RDF) which is used as a substitute fuel to coal and other fossil fuels for the manufacture of cement.

Landfill is utilised as a last resort when EfW capacity or RDF production is not available.

The Government has set a target for England, that no more than 10% of municipal waste should be sent to landfill by 2035. Nottingham already achieves this target with less than 8% disposed of to landfill.

Nottingham sets the following ambitions:

Ambition No. 9 – Nottingham City Council will continue to prioritise energy recovery and avoidance of waste to landfill for all waste that remains once material has been recycled, reused and composted.

Ambition No. 10- Nottingham City Council will continue to extract more recyclables from residual waste to maximise the use of materials (at present this is metals and aggregate recovered from incinerator ash).

Ambition No. 11 - Nottingham City Council to continue to keep waste sent to landfill to under 8% of that collected, well in advance of the 10% national target for 2035.

5.5 Leading By Example

Nottingham will set an example to its residents and businesses by ensuring that they are at the forefront of development, leading by example to reduce waste and conserve resources.

Nottingham is aware of its role in managing wastes and conserving resources in Council buildings and activities and makes sets the following ambition:

[14] NCC also recover the ash that is left over from the energy recovery process. The metal and aggregate content of this material (know as Incinerator Bottom Ash) can be sent for recycling.

Ambition No. 12 – Nottingham City Council will lead by example by reviewing their internal purchasing activities and waste management services to promote waste prevention and encourage reuse and recycling within its internal operations.

5.6 Communications & Engagement

Communications are an essential part of the waste and recycling service to ensure that residents are well informed and able to participate fully in services. To do so, residents need to fully understand what services are available to them, how they operate and the role they play. Well-designed communications are also those that target particular or perceived barriers and offer solutions or information to overcome them. They demonstrate an understanding of the current situation, are consistent with their messaging and clearly identify the desired outcomes (i.e. separating food waste from residual waste, or reducing contamination).

Introducing Food Waste in Wales – Lessons Learnt

- Treating the concept of waste collection as much as part of the service as recycling and residual streams.
- Targeting the 'food waste to energy' message to educate and increase engagement.
- Only using inedible food waste in imagery to relay the waste minimisation message as the first priority, using food waste collections for only what is left.

Clear and effective communication between Nottingham and its residents is essential to ensure that the objectives of this Strategy are met. As such, Nottingham commits to:

Ambition No. 13 Nottingham City Council aims to continue to proactively engage with residents, through a variety of mechanisms, to promote waste prevention, low waste alternatives, reuse and repair schemes in the city with the aim of reducing overall waste arisings and helping develop more sustainable lifestyles.

Ambition No. 14 Nottingham City Council aims to continue to proactively engage with residents, through a variety of mechanisms, to ensure maximum participation in recycling services in the aim of improving kerbside recycling performance. This will include clear and effective communication regarding the recycling and waste collection service.

Ambition No. 15 Nottingham City Council aims to provide more education in schools covering sustainable living; the linkage between the 3 R's (Reduce, Reuse, Recycle) and providing the resources we need as a society, and; how good management of resources helps to tackle climate change.

Ambition No. 16 The Council will continue to provide clear and effective communication regarding waste prevention, reuse, repair and recycling services by promoting best practice behaviours which support the circular economy and contributes to the net zero aspirations of the Council.

5.7 Working towards Net Zero carbon in Nottingham

The measures throughout this draft Strategy will make significant reductions to carbon emissions from the municipal waste management service. Modelling undertaken for the Options Appraisal process indicates that by implementing all of the best performing collection measures within this Strategy, using current data, the carbon savings of the range of -650 – 3,400 tonnes of CO_2 equivalent would be delivered each year, compared against the present service. This is the equivalent (in carbon emissions terms) of taking up to 1,200 cars off the road.

Nottingham has been a leading authority in the transition to alternative fuel vehicles. As of 2021, Nottingham had switched over 40% of its fleet to e-vehicles and has a target of 100% electric or renewable fuel fleet by 2028, in lined the CN28 targets. Amongst its electric fleets are over 130 vans, 50 cars, 14 cage tippers and 8 sweepers.

Nottingham City Council also currently operate 8 electric waste collection vehicles (eRCVs) and this fleet is due expand with more expected to come online, up to 20 eRCVs, out of a fleet of 29 collection vehicles (as per the Options Appraisal).

Ambition No. 17 – Nottingham City Council will continue to expand its fleet of alternative fuel vehicles to reduce the carbon emissions of the service that are associated with waste and recycling collection and transportation to improve local air quality.

6 Where will this Strategy take us?

The need to reduce carbon emissions to achieve net zero in Nottingham will require significant changes to our everyday lifestyles and behaviour in order to reduce the impact we have on the environment.

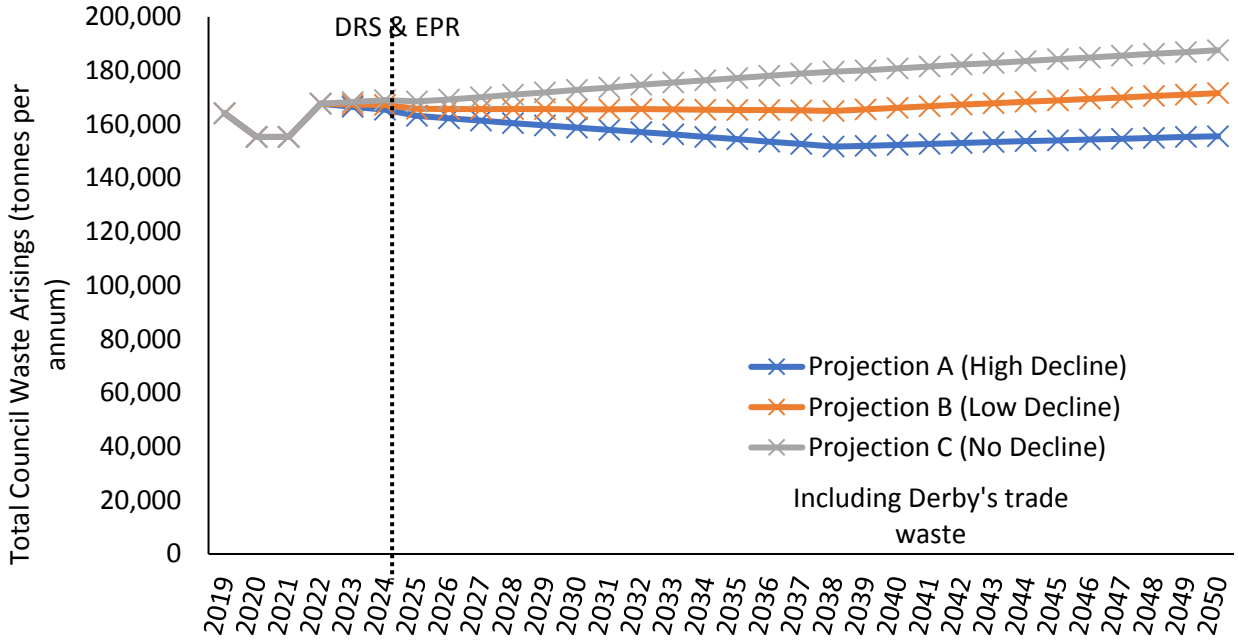
Nottingham has led from the front for many years in terms of its use of energy recovery and district heating capabilities. However, we live in a changing world and as we move forward, more challenges will arise, and as a Council we will need to adapt and change in order to meet these requirements.

We have seen significant changes in resources and waste across Nottingham over the last 20 years and upcoming policy looks set to keep the industry evolving. This is both driven by lifestyle changes (more on-line shopping) and advancements in technology and design (lighter weight packaging, new materials) changing the materials we use and dispose of, including the use of more plastic. Because plastic is usually oil based (fossil carbon), this conflicts with the aims of a low carbon future, unless we can recycle that material multiple times.

Managing these uncertainties and ongoing changes to resource and waste management requires a Strategy that is both robust, but also flexible and responsive to be able to approach new challenges. Within this Strategy we have set out a number of ambitions to deliver real change and improvements to the management of resources and waste within Nottingham.

A projection of future waste growth rates, informed by housing forecasts and residual waste reduction assumptions, is shown in Figure 3, with High, Low and Core projections shown. This would be delivered by a variety of local waste prevention and reuse activities and also driven by national changes driven by packaging producers affected by the Extended Producer Responsibility (EPR) measures.

Figure 3: Waste growth projections for wastes collected by Nottingham City Council, 2019 - 2050



The measures explored in the accompanying options appraisal document show how Nottingham's recycling performance could increase from c.23% to c.42% through effective recycling and separation systems. It also demonstrates a potential carbon saving of c.3,400tonnes of CO_2 per annum is achievable. National changes, as explained in section 2.1 of this draft R&WS, could drive separation and recycling in the city to over 50% as recycling is made easier and clearer.

The vision and objectives of the draft R&WS cannot be met by the actions of Nottingham City Council alone. It requires residents and businesses of the city to consider their purchases and consumption of resources and then to seek to use the available reuse, repair and recycling systems for them, when they are no longer wanted. The Council's role is to help provide good information on waste prevention activity and encourage the right behaviours through education and enforcement, and as such either directly provide or facilitate the collection, reuse, repair, recycling of unwanted materials, goods or wastes.

7 Consultation and Next Steps

This document presents a 'consultation draft' of the Strategy.

Nottingham City Council are seeking feedback and the views of its residents and communities, including businesses that use, or are affected by the proposed resource and waste services in this R&WS.

The feedback obtained from a Public Consultation Questionnaire will inform the development of the final Strategy for publication.

The Consultation Questionnaire is available on XXX [Website].

If you have further comments or wish to request another format, please email XXX or call XXX.

The deadline for responses is XXX.

7.1 Supporting Documents

This draft R&WS has been informed by research, analysis and consultation. It is supported and accompanied by the following documents:

- Options Appraisal. This is an assessment of alternative resource and waste service delivery options, analysing combinations of factors such as waste collection methods, recycling options, or treatment approaches. The outcome was a selection of possible approaches to meet the Strategy aims and objectives.
- Non-technical Summary of the Options Appraisal report to aid and assist in consultation feedback
- Stakeholder engagement. The draft R&WS has been informed by officers and Councillors of Nottingham City Council.
- Public Consultation. A consultation questionnaire has been developed on key elements of the draft R&WS to gather feedback from the residents and communities of Nottingham.