

Cheshire West and Chester Council

Waste Management Strategy 2021-2031



Report for

Mark Brazil
Cheshire West and Chester Council
Phoenix House
Clough Road,
Winsford
CW7 4BD

Main contributors

Phil Scott
Chris Hudson
Amie Walley

Issued by

.....
Chris Hudson

Approved by

.....
Phil Scott

Wood Group UK Limited

Block 2, Level 1
Booths Park
Knutsford WA16 8QZ
United Kingdom
Tel +44 (0)1565 652100

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Foreword

I am proud to present Cheshire West and Chester Council's Waste Management Strategy for 2021 to 2031.

It represents our plan to transform the way we, as a borough and as a community, think about and deal with the waste we collectively produce. It is our blueprint for creating a modern waste and recycling service that rises to the challenges we face through Climate Change and meets the expectations of the residents we serve.

We want Cheshire West and Chester to be a leading light in the battle against Climate Change. We want our borough to be known for its outstanding commitment to reducing waste and recycling more. And we want to be the greenest borough in the country. We will do all we can to protect our environment and our planet and ensure a brighter, cleaner future for our children.

We have set our targets high - our aspirations are enthusiastic and challenging yet achievable. They will take time, effort, commitment and dedication. We know that if we work together, there is nothing we cannot accomplish.

Our shared ambitions are to reduce the total amount of waste we produce and to reuse and recycle more than we ever have in the past. We must do this to ensure the long-term health and sustainability of our homes and families, our borough and our planet.

In West Cheshire, we already appreciate the benefits to be gained when we produce less waste and recycle more.

In 2020, we created Cheshire West Recycling (CWR Ltd). A new company for waste collection founded on cooperative principles and environmental sustainability. It allowed us to take full control of our waste and recycling service, to shape it for the future needs of our borough. It was an immediate success, deploying more than 100 collection teams daily and boasting a 99 per cent collection rate. This was the starting point we needed to support our residents with their desire to reduce the waste they produce and recycle more.

Currently, we recycle more than most other local authority areas. However, we know that by working more effectively together, we can do more, we can do better. We want to give our residents more opportunities to reduce and recycle and make sure that our network of Household Waste Recycling Centre's support our priorities, encourage more home composting and give people the tools they need to embark on their own green journey. That is why we are making these changes to the way we collect and manage the waste we produce. We can no longer continue to send such significant amounts of our waste for costly and environmentally damaging processing and disposal.

This strategy sets out how we will provide more opportunities for residents to reduce, reuse and recycle waste. For many of our residents, this will mean bigger bins, to give everyone greater recycling capacity. We will introduce an efficient new bin collection schedule that will reduce both costs and harmful CO₂ emissions.

We also believe that the waste plans for our borough should be built on fairness, flexibility and provide the best value for money. They will take different property types into account and respond to the needs of those that require extra assistance.

Why are we doing this now? Because our existing Waste Management Strategy is out of date and no longer responds to the needs of an increasingly environmentally conscious generation.

With our residents' outstanding commitment to reducing waste and recycling more, you have told us what you expect from a modern waste and recycling service and we intend to meet those expectations.

We began this process with one of the largest consultation exercises we have ever undertaken. We asked our partners, our community groups and our residents what they wanted for the future and more than 14,800 of

you responded. The majority of these respondents said they wanted a waste and recycling service that helped them to reduce their waste and recycle more. We have listened and this strategy is our response.

The stakes could not be higher. Our response to the Climate Change Emergency stated that it ‘posed a threat to our way of life’. The decisions we make today will have a profound impact on our future prosperity as a species for generations to come. We want action, not avoidance, we want hope, not helplessness and we want results, not excuses. And if you want to change the world, then looking inside YOUR bin is a great place to start. This is something that affects us all and therefore needs us all to do our best to make happen.

Together we are on a journey to make Cheshire West and Chester a waste-free borough and we will be asking for your input every step of the way.

It is a privilege for me to present this strategy because it is so important for our future and our children’s futures. It is exciting to think that together we can make a difference.

Thank you for joining the journey.

Cllr Karen Shore, Deputy Leader and Cabinet Member for the Environment, Highways and Strategic Transport

Glossary

Anaerobic Digestion (AD) -A biological treatment process that occurs in the absence of oxygen, it can be used to treat organic waste (kitchen and garden waste) to produce a gas that can be used to create energy.

Alternative fuel – An alternative to standard hydrocarbon based vehicle fuels (diesel & petrol) such as electric, hybrid, biofuels or hydrogen.

Behavioural Change – Adaptations to how people act or react in relation to their use of the waste services.

Carbon impact – The greenhouse gas emissions associated with a product or released from a process measured as Carbon Dioxide Equivalent (CO₂ eq.).

Carbon Savings – The reduction in Carbon Dioxide equivalent emissions associated with a beneficial change in a product or process lifecycle.

Cheshire West Recycling Ltd (CWR) – The Council wholly owned company that is responsible for the operation of the Council's waste collection service.

Climate Change/emergency – The change in the global climate associated with man-made release of greenhouse gases. Climate Change Emergency is the recognition of the need to increase the rate of change of behaviours to more rapidly reduce our carbon impact.

Compressed Natural Gas (CNG) – Fuel gas made of natural gas (typically methane) compressed to reduce the volume it occupies and standard atmospheric pressure. CNG may be appropriate as an alternative fuel for the RCV collection fleet.

Co-mingled – The mixing of some or all recyclable materials within the collection containers and vehicles for separation within a later processing stage.

Communications – The transfer of information relating to the waste management services by the Council, this can be by a variety of approaches.

Consultation – The "Don't let your future go to waste" consultation undertaken by the Council on the future of waste management services between 21st January to the 18th March 2021.

Deposit Return Scheme (DRS) -The prices of drinks in plastic bottles includes a small additional deposit. Empty bottles can be returned to stores to receive the deposit refund.

Disposal – The end of the waste management process without the recovery of any additional value from the wastes.

Electric Refuse Collection Vehicles (eRCVs) – Refuse collections powered solely by electricity stored within onboard batteries.

Emissions – The gaseous, liquid and wastes emitted from a process.

Energy from Waste (EFW)/Energy Recovery Facilities (ERF) - Facilities that use residual (non-recyclable) waste or RDF to recover and export energy.

Euro VI – The sixth implementation of the European Union directive to reduce harmful pollutants from vehicle exhausts introduced in 2014. It is expected to be replaced with Euro VII in 2025.

FCC – The Council's residual waste treatment and disposal contract operator.

Fleet – The vehicles operated by CWR for the collection of the household wastes.

Fly-tipping – The illegal and uncontrolled dumping of quantities of wastes.

Green Fuels – Fuels for the waste collection fleet which have a significantly reduced environmental impact, in particular a reduced carbon emissions profile.

Household Waste Recycling Centre (HWRC) - Places provided by CWAC where residents may bring re-usable, recyclable and compostable materials and residual waste and deposit them free of charge.

HW Martin – The Council's HWRC operations contractor.

Hybrid RCV – An RCV that uses both hydrocarbon and electric fuels in combination, typically as a diesel drivetrain with an electric bin lift and compactor system.

In Vessel Composting (IVC) – A biological treatment process that occurs in the presence oxygen. It can be used to treat organic waste to produce compost and compost like products. The process is contained in an enclosed vessel as opposed open spaces.

Kerbside Collection – The collection of household waste from properties where the waste is presented at the roadside.

Landfill – A licensed waste management site for the disposal of residual waste by controlled burying, typically within an excavated pit or quarry. A modern landfill will have impermeable linings, leachate extraction and gas management systems in place to minimise the environmental impact of the process.

The Council – Cheshire West and Chester Council

Materials Recovery Facility (MRF) -A facility at which a co-mingled mixture of recyclables is sorted by means of Mechanical Treatment and sometimes hand picking into the separated materials.

RCV – Refuse collection vehicle

RDF - Refuse Derived Fuel (See EFW) - Fuel produced from residual (non-recyclable) waste. RDF is burnt in EFW or industrial facilities to create energy.

Residual/refuse – The wastes remaining once waste has been minimised, reused and materials removed for recycling and composting at the point of production.

Recycling rate – The material separated for recycling and composting expressed as a percentage of the overall waste generated.

Reuse – Material that would otherwise be disposed or recycled which has its useful life extended through use for the same purpose without any additional processing.

Trade/commercial waste – wastes generated by commercial establishments or the activities of traders or businesses.

Twin Stream – The separation of recyclable wastes into two separately collected elements, typically this is achieved through the separation of either the paper & cardboard or glass fractions from the other recyclables.

Waste Electrical and Electronic Equipment (WEEE) -Examples of WEEE are computers, televisions, kitchen appliances and mobile telephones.

Waste Hierarchy – The order of preference for the management of wastes (Reduce, Reuse, Recycle, Recover, Dispose) as set out at Article 4 of the revised Waste Framework (Directive 2008/98/EC)

Windrow Composting – is a relatively simple process used for breaking down garden waste and converting it into compost. The garden waste is placed on an impermeable surface and formed in to elongated triangular mounds (windrows) which are periodically turned to aerate the garden waste and allow aerobic microbes to break it down and convert it into compost .

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1. Introduction

This section states the purpose of this document, outline its context and summarises the challenges facing the waste management services delivered by Cheshire West and Chester Council

1.1 The Purpose of this Document

This document is the Waste Management Strategy for Cheshire West and Chester Council (the Council). It has been prepared following a public consultation process (undertaken between January and March 2021). The Strategy sets the shape and direction for the future of the waste management services delivered by the Council up to 2031. In so doing it provides information concerning:

- The context for this document, the key service challenges and the need for change;
- The existing services and their performance;
- The Council's vision and values and how these impact on waste management;
- The policy and legislative context for the waste management strategy;
- The strategic options considered by the Council how these were assessed;
- The options that the public have been consulted on;
- The outcomes of the consultation process and how these been used to build the strategy; and
- The next steps and implementing the strategy.

The waste management strategy also establishes key aims and objectives for the future management of waste within Cheshire West and Chester and identifies important steps that will be undertaken to deliver these aims and objectives. These actions will be targeted to minimise waste production, help tackle the climate change emergency, improve the sustainability of waste management practices, protect and enhance the local environment and local neighbourhoods, make increased use of waste as a resource and to improve service accessibility, flexibility and efficiency.

As a unitary Authority, the Council is the statutory Waste Collection Authority (WCA), Waste Disposal Authority (WDA) and Principal Litter Authority for Cheshire West and Chester. The Council provides a range of services for the collection of municipal waste and litter. These include;

- Kerbside collection services – non-recyclable (black bin) waste, recycling, garden waste, food and bulky wastes;
- Household waste recycling centres (HWRCs);
- Bring bank;
- Litter and dog waste bin;
- Litter picking;
- Street and road sweeping;
- Clearance of fly tipped waste; and
- The management of the materials collected through the services listed above.

The Council also generates waste from some of its other activities such as maintaining parks and open spaces.

During the life of this Waste Management Strategy arrangements for service delivery are likely to change – for example, the contract for the treatment of residual waste will be re-tendered in 2024 and the Government are consulting on changes to national waste management practices. The strategy will be developed to provide a flexible framework that can be adapted to meet the changing requirements of the legislative environment and changing local requirements. In some cases, the Council may consider it appropriate to extend the management of some service elements through its wholly owned company, Cheshire Waste Recycling Ltd. (CWR) which was established in March 2020. CWR have been responsible for kerbside collections in Cheshire West and Cheshire since 1st April 2020. Where it is appropriate and beneficial the Council will also consider entering into partnerships with neighbouring authorities, third sector organisations or other locally based third parties.

1.2 Context

Cheshire West and Chester Council

Cheshire West and Chester Council was established as Unitary Authority in 2009 and its administrative area covers approximately 350 square miles. The Borough includes the city of Chester and the industrial and market towns of Ellesmere Port, Frodsham, Helsby, Malpas, Neston, Northwich and Winsford as well as many rural villages.

The population of the borough is approximately 340,500 and this is forecast to increase during the period covered by this Waste Management Strategy. Furthermore, the demographic characteristic of this population is also changing with an increasing proportion of people in older age groups.

There are currently about 160,000 household dwellings in the borough receiving waste collection services and this rising is at rate of about 1,100 dwelling per annum as new properties are developed.

1.3 Key Service Challenges

Over the past 10 years, Cheshire West and Chester residents have made significant improvements in rates of recycling. In 2019-20, the overall recycling rate was just over 56 per cent - this is a vast improvement on a rate of 48 per cent in 2010-11. However, there is still a long way to go, with the Council required to pay to process the remaining 44 per cent (69,000 tonnes) of household waste that isn't recycled. This processing also has an environmental impact. If there is not a reduction in residual waste, the Council will face annual rising costs and will not be in a position to address the climate change emergency.

Material Income

Material collected for recycling is sold and the money received helps to reduce the overall cost of running the services. There have been significant impacts upon material income in the past 10 years due to a global reduction in the value of recyclable materials. This means that there is decreasing funding available to reinvest into waste services.

Housing Growth

Since the last review of the collection service in 2012 there has been an increase of approximately 13,000 households in Cheshire West and Chester. This number continues to grow annually. There is a need to review collection routes to ensure the best use of vehicle and, staff resources and reduce fuel consumption. Approximately 45% of residents noted in a recent survey that their black bin was full on collection day, with

20 per cent confirming their bin was only half full after two weeks. This highlights the need to review the kerbside waste collection service to ensure it is as efficient as possible, meeting the needs of residents and minimising the impact on the environment, particularly around carbon emissions from vehicles. The Council also have an ageing fleet of waste collection vehicles, with many of them reaching the end of their useful life and becoming inefficient from both an economic and a climate change perspective. The Council need to replace these with more modern and environmentally friendly alternatives.

Composition Change

Globally, food production is responsible for 30 per cent of total greenhouse gas (GHG) emissions. However, an estimated one-third of all the food produced in the world goes to waste. The Waste and Resources Action Programme (WRAP) has calculated that on average, the equivalent of four tonnes of carbon dioxide emissions are avoided for every tonne of food waste prevented. The Council has ensured that the kerbside food recycling service is as easy as possible. Residents can use any type of plastic bag, newspaper or compostable liner to recycle their food waste and place it in the caddies provided by the Council. It is important that everyone continues to work together to be smart about planning and buying food and to recycle leftover food rather than putting it in the black bin with the non-recyclable waste.

Financial Pressures

Due to increased financial pressures, the Council must make some tough decisions.

The cost of the Council's waste service has increased significantly in recent years as the number of households has grown, volumes of waste have increased and the costs of treating and disposing of that waste have risen. These pressures contributed to the former waste collection contract provider handing back the service to the Council in 2020, and they continue with the current service provider.

At present the waste service is dependent on significant temporary funding per year to fund ongoing services. The changes proposed by the waste strategy are intended to help reduce the cost of the service and bring it into line with underlying funding levels by 2026.

Contract Expiry

Our household waste recycling centre (HWRC) achieve a high rate of recycling and but our contract with HW Martin will end in 2023. Before this, a review will need to be undertaken to determine the most appropriate long-term arrangements for this service.

Covid-19

The COVID 19 crisis of 2020 and 2021 has impacted on the delivery of the Council's waste management services and the amount of waste that residents produce. The effect of the pandemic meant the Council had to temporarily suspend garden waste collections and focus resources on collecting black bin waste and recyclables, the Council also had to temporarily close and then reconfigure how the HWRC's operate. These changes were essential, and the Council are aware of the issues they raised. However, because many residents were working from home, the amount of household waste needing to manage and disposed of also rose which further impacted on the Council resources and finances.

National Policy Change

The Council must ensure that all waste collection and management services are aligned to national policies, plans and strategies. The Department for Environment Food and Rural Affairs (DEFRA) has just consulted on a new waste prevention programme for England. Although the consultation findings are not yet published this

will set out ambitious targets to ensure we are the first generation to leave the environment “in a better state than we found it.”

The National Resources and Waste Strategy was published by the Government in 2018 and sets out measures to help to achieve this ambition including;

- Work towards all plastic packaging placed on the market being recyclable, reusable or compostable by 2025;
- Work towards eliminating food waste to landfill by 2030;
- Eliminating avoidable plastic waste over the lifetime of the 25 Year Environment Plan;
- Doubling resource productivity by 2050; and
- Eliminating avoidable waste of all kinds by 2050.

1.4 The need for change

The Council is developing this waste strategy now to:

- To enable the Council to deliver a high quality, affordable and cost-effective Waste Management service to the residents of Cheshire West and Chester, whilst meeting challenges around:
 - ▶ the climate emergency that has been declared by the Council;
 - ▶ rising household waste volumes and processing costs; and
 - ▶ volatile materials markets.
- Support the transition of the Waste Collection Service from its previous contract to the new provider CWR and enable CWR, and the Council to source the fleet and equipment necessary to provide the collection service;
- To ensure that there is a clear vision for the Waste Management Service to inform the recommissioning of major services contracts, including those for the Household Waste Recycling Centres (HWRCs) and Waste Treatment and Processing;
- To ensure the Council can put in place flexible and resilient services that match the evolving needs and aspirations of residents which also enables the implementation of changes recommended or mandated through national policy, strategies and legislation;
- To ensure arrangements are put in place to minimise risk around service resilience and ensure future affordability of the Council’s waste collection and recycling services; providing best value to the taxpayer; and
- To continue the work with residents to remain one of the best recycling authorities in the Country.

2. The Council's Visions and Values

This section sets out the aims of the Council in delivering its services and how these relate to the management of municipal waste.

In February 2020 the Council ratified its four-year Council Plan, "Play your part to Thrive". This document, accompanied by a four-year budget, sets out the strategic priorities for the Council in coming years, and how the Council will change the way it works to meet the needs of its communities. It is underpinned by the principle of listening and co-producing services with residents. The Council has subsequently developed a Recovery and Renewal Plan which sets out updated action plans against the Council priorities following the impact of COVID-19 and the national and local response. Six main challenges were identified in the plan.

1. Tackling the climate emergency;
2. Growing our local economy and delivering good jobs with fair wages for our residents;
3. Supporting children and young people to get the best start in life and achieve their full potential;
4. Enabling more adults to live longer, healthier and happier lives;
5. Making our neighbourhoods even better places to call home; and
6. Being an efficient and empowering council.

These have been considered at all stages in the development of this waste strategy and have shaped the three key priorities:

- Reducing overall waste;
- Increasing reuse and recycling; and
- Delivering an efficient and cost-effective waste management service.

There are significant links between the Council's approach to waste management and its priorities relating to tackling the climate emergency, poverty, inequality and mental health. The effects of climate change, in which waste is a significant contributing factor, are often most acutely felt by people who are experiencing poverty – as demonstrated in recent flood events. Similarly, the effect of climate change on creating anxiety, especially in young people, has been widely noted in the national and international media. In order to tackle these issues with communities, the Council is working with the Welcome Network to explore becoming a 'Sustainable Food Place'; creating a sustainable food system will reduce food poverty, reduce waste and generate lower carbon emissions. It is essential that the Council bears the linkages between these priorities in-mind when designing our services, and we have aspired to this throughout the process of reviewing the strategy.

Given the vital importance of the Council's approach to waste management in tackling its priorities and delivering efficient and effective services for residents, it is important to set out the Council's principles in designing its approach. These are:

1. A co-produced plan with residents:
 - a. In order to deliver this the Council carried out a public consultation exercise covering strategic options for the future delivery of the waste services - "Don't let your future go to waste". The consultation took place for a period of 56 days (8 weeks) from the 21st January to the 18th March 2021. It was open to all residents in the Cheshire West and Chester Council administrative area, key stakeholders (such as Parish and Town Councils), and other

stakeholders with an interest. A range of methods and techniques were used to ensure that the local community and other stakeholders could be involved in the process. A total of 14,844 pieces of feedback were received to the consultation.

2. An evidence-based plan:

- a. In developing the waste management strategy, the Council has considered a large amount of data and best practice evidence from elsewhere in the UK and from further afield, some of which is summarised in this document within the information boxes. The Government is developing national policy, legislation and strategies and therefore the Council needs to retain flexibility in future service provision to enable the implementation of any required changes.

3. A democratically informed plan:

- a. In order to produce the strategy, the Council's Places Scrutiny Committee Task Group (a selection of cross party members) attended a series of four workshops to consider a wide range of waste management options considering local and national environmental considerations, and the impact they would have in relation to the Council's vision, values and priorities. This work also included site visits to the current waste collection, treatment and household waste recycling facilities and the analysis of the Council's arrangements with key suppliers. A shortlist of compatible waste management options and collection methodology were developed through scenario modelling for further review and scrutiny. This exercise resulted in the identification of key priorities and various options for the future service which were then included within the public consultation: "Don't let your future go to waste".

Whilst meeting these visions, values and priorities the Council aspires to deliver a more agile waste management service that is reactive to the needs of our residents, helps improve the local environment and is operationally effective and efficient.

3. Cheshire West and Cheshire Current Waste Management Arrangements

This section sets out the current waste collection, treatment and disposal methods used by the Council.

3.1 Household Collections

Kerbside Collections

The Council provides a collection of waste from all households within the borough. Figure 3.1 provides an overview of the household collection service and how the waste is managed and treated once it is taken from the property. Only a very small amount of household waste (about 1%) goes to landfill with remainder either reused, recycled or used for energy recovery. The kerbside sort process generates high quality recyclables, but the collections were designed many years ago and are becoming inefficient, there is also potential for litter generation due to the current containers and during the sort process.


























The current collection provisions and frequencies are set out in figure 3.1 below.

Figure 3.1 Current Service Containers and Collection Frequencies



Within this collection system, in addition to the food and garden waste, householders are able to separate the following dry recyclable materials for recycling at their doorstep are shown in figure 3.2

Figure 3.2 Current Service Containers and Collection Frequencies

| | | | | | |
|---|--|---|---|---|--|
|  | mixed paper  |  | cardboard  |  | small electrical  |
|  | mixed glass bottles & jars  |  | mixed textiles & clothes  |  | batteries  |
|  | cartons (Tetrapaks)  |  | engine oil (In a sealed container)  |  | mobile phones  |
|  | spectacles  |  | cooking oil (In a sealed container)  |  | printer cartridges  |
|  | plastic bottles  |  | household plastic packaging  |  | food tins & drink cans  |
|  | foil  | | | | |

Bulky Waste Collections

The Council operates an on-demand bulky waste system for large items such as white goods and furniture. The bulky waste service is offered to domestic households only. The service endeavours to reuse or recycle as many of the items collected as possible. This helps thousands of families, saves money, provides jobs, work-placements, volunteer opportunities retains over £1 million in the local Cheshire economy and reduces the amount of waste requiring treatment. This is why the Council offer a chargeable collection service

Residents are able to request a bulky waste collection via the Council web site (cheshirewestandchester.gov.uk/residents/waste-and-recycling/bulky-waste-collection.aspx). Residents requiring a bulky waste collection are charged a rate of £15 per item - although a reduced rate of £10 per item for is available for those in receipt of a state pension or council tax reduction (excluding single person discount).

3.2 Household Waste Recycling Centres (HWRC)s

Cheshire West and Chester Council operate seven HWRC sites distributed across the County. These sites are available for residents of Cheshire West and Chester to deposit household wastes. These are located are the following places:

- Chester Bumpers Lane, CH1 6QE;
- Ellesmere Port Garth Road, CH65 4LB;
- Frodsham Church Street, WA6 6PN;
- Neston Clay Hill Industrial Estate, off B5136 (Liverpool Road) CH64 3RL;
- Northwich Old Warrington Road, CW9 5LN;
- Tattenhall Red Lane, CH3 9DB; and
- Winsford Leslie Road, CW7 2RB.

A map showing the distribution and location of the HWRC sites is provided in figure 4.1 below.

The HWRC's accept a range of household waste materials for reuse, recycling or disposal but do not accept trade waste. The material accepted at the HWRC's include:

- Paper;
- Cardboard;
- Glass;
- Textiles (including shoes);
- Engine oil;
- Cooking/vegetable oil;
- Metals;
- Cans;
- Plastic bottles;
- Green waste;
- Batteries;
- Wood;
- Rubble and soil;
- Books;
- Small and large domestic electrical appliances (e.g., fridges and freezers, televisions);
- Fluorescent tubes;
- Bric a brac/items for re-use;
- Left over paint; and
- Empty paint tins.

Five of the Council's HWRC sites (at Chester, Ellesmere Port, Neston, Northwich and Winsford) already have "Reuse shops" where residents can leave items that they no longer require but which could be used by another person.

A separate trade waste recycling facility is currently provided by the Council and is located next to the HWRC at Bumpers Lane in Chester, CH1 6QE. This accepts a range of waste including mixed trade waste, garden waste, plasterboard, hardcore and rubble as well individual items such as white goods and tyres. A variable charge is applied depending on the type and quantity of the trade waste accepted.

The trade waste recycling facility was implemented as pilot and its continued provision is something Council will look at again prior to the expiry of the HWRC contract in 2023. Considering the usage of this facility, the Council believe there are potentially more efficient alternatives to be explored based on the use of the HWRC network.

Figure 3.3 Geographical distribution of HWRCs



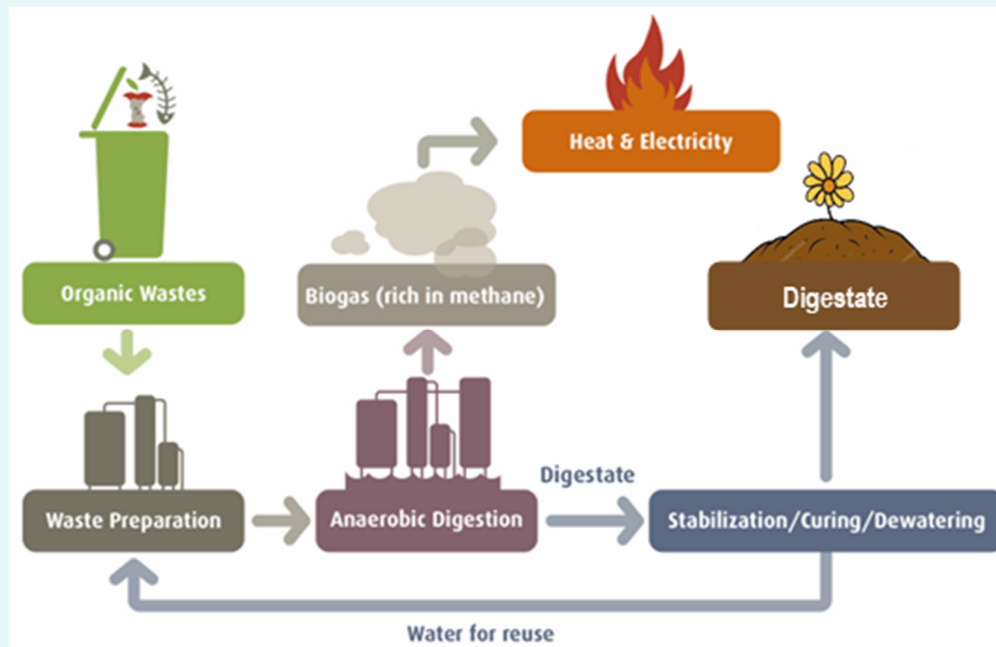
3.3 Waste Treatment & Disposal

Food Waste

The food waste collected through the brown food waste bin is delivered to the waste transfer station and then sent to the Anaerobic Digestion facility operated by Severn Trent Green Power in Warwickshire.

Anaerobic Digestion

Anaerobic Digestion is a process for treating organic wastes which uses bacteria to digest the organic waste. As they consume the organic matter the bacteria produce methane which can be used to produce electricity or refined for use as a biogas either by injection into the gas grid or as a fuel. The remaining organic solids (digestate) can be used as a fertiliser / soil improver.



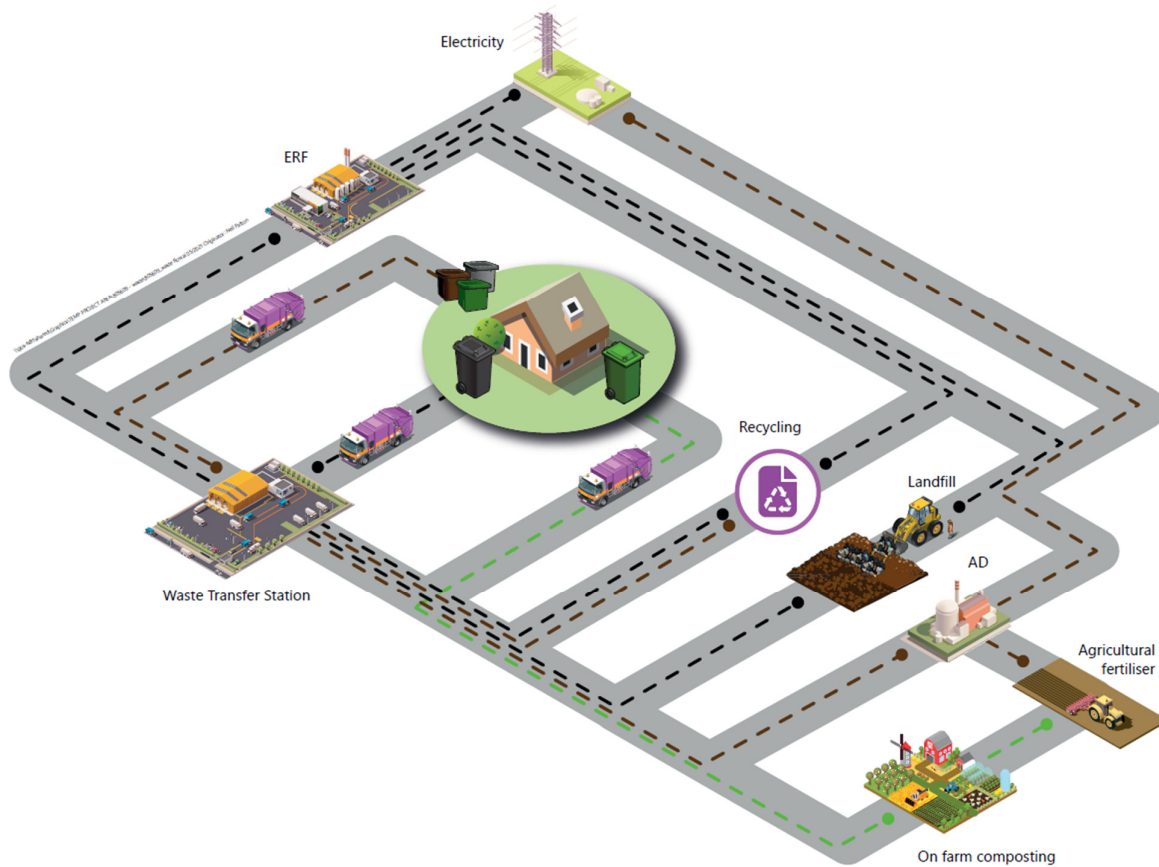
Garden Waste

The garden waste collected through the garden waste bins is sent to local open windrow composting facilities within Cheshire West and Chester and its surrounds.

Residual Waste

The waste that remains and is placed in the black bins, once the recyclables have been separated by residents, is transported to the waste transfer station in Ellesmere Port where it is prepared as a fuel for the Energy Recovery Facility / Energy from Waste (EfW). In this process metals are extracted for recycling and a small quantity of fines removed for disposal at a local landfill. The remaining material is then bulked and sent to Energy Recovery Facilities (ERF) where it is used to generate heat and electricity.

Figure 3.4 Current Service Map



AD – Anaerobic Digestion
 ERF – Energy Recovery Facility

3.4 Fleet

The Council collects the waste from properties using a fleet of Romaquip recycling collection vehicles to collect the recyclates and food waste and standard refuse collection vehicles (RCV's) of various size and type of to collect the household and garden waste. The majority of this fleet was purchased in 2012 and are diesel fuelled.

3.5 Performance

Cheshire West and Chester - A High Performing Council

The Council is currently one of the top 5 highest performing local authorities in the North West of England with a recycling and composting rate of ~ 56%.

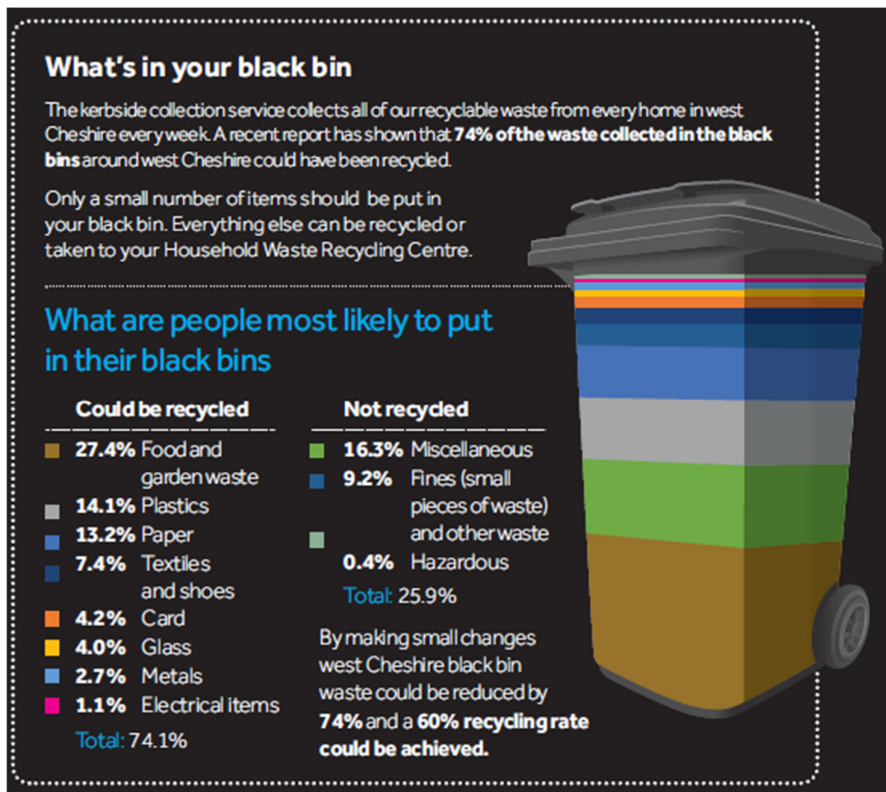
This combined recycling and composting rate places the Council within the top 10 performing Unitary Authorities and top 30 performing Councils in England.¹

Waste Composition

The Council carried out a comprehensive and detailed waste composition analysis in 2008/09. The waste composition analysis has been used as a baseline, and changes in population behaviour around consumption and waste generation trends tracked and accounted for, to maintain an estimation of the composition of the waste collected by the Council. Trends have included the move to digital media reducing the amount of newspapers, the increase in home shopping increasing cardboard arisings, the increased use of light-weight plastic packaging and the reduction of single use plastic items.

Whilst the residents of Cheshire West and Chester have been successful in achieving a high recycling rate, the composition of the waste in the black bin (figure 3.5) shows there is still room to recycle more.

Figure 3.5 Black bin Composition



¹ <https://www.letsrecycle.com/councils/league-tables/2019-20-overall-performance/>

Waste compositions are not stable and there is likely to be further changes in composition and tonnage into the future resulting from legislative and economic changes. The proposed ban of some types of single use plastics and prevention of avoidable plastic waste could influence the composition of household waste. Plastic waste could begin to comprise a lower proportion of household waste. Substitute materials or new packaging products could be used to replace plastic. For example, bioplastics or paper and cardboard may increasingly be used as alternatives to plastic for packaging.

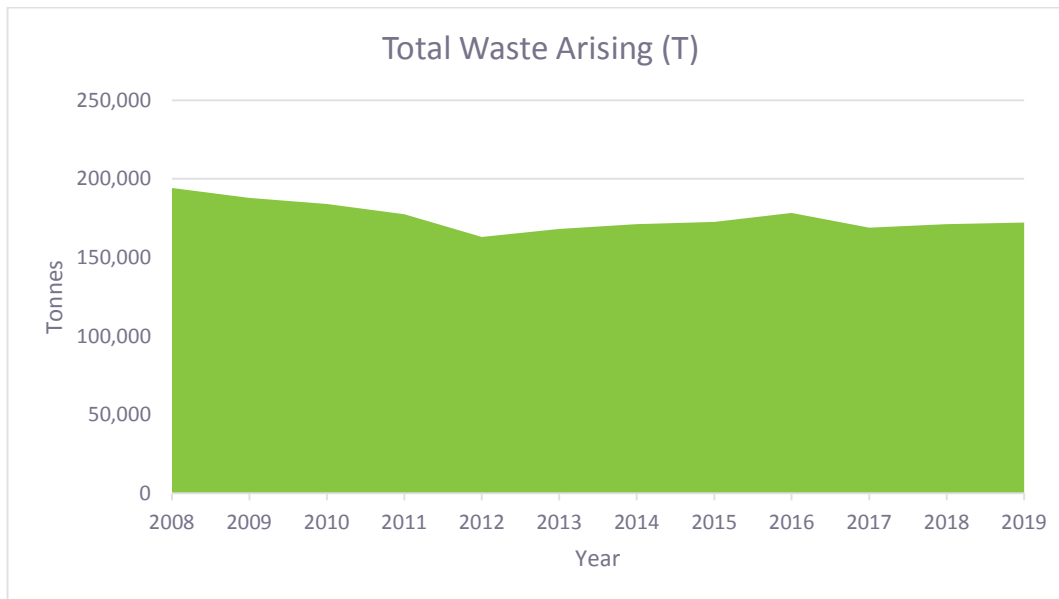
A potential move away from the use of plastics to other materials could create several challenges, especially during the transition, and impact on waste management costs, the recyclability of household waste and waste growth. For example, could bioplastics be collected for recycling, composting or energy recovery and how would this be communicated to residents and enforced? Composite alternatives to plastic packaging for food products could become more difficult to recycle. Household waste growth could accelerate due to a switch from lightweight plastic products to heavier alternatives (e.g., switching from plastic carrier bags to paper bags).

Waste Tonnages

In 2019/20 the Council was responsible for the management of 172,354 tonnes of municipal waste, equivalent to 1.16 tonnes of waste generated per household annually. The amount of waste the Council manages has reduced by over 8% since 2009/10 despite increases in the population (figure 3.6)

During the same period, recycling, composting and re-use increased by nearly 25% (from an already, comparatively, high baseline).

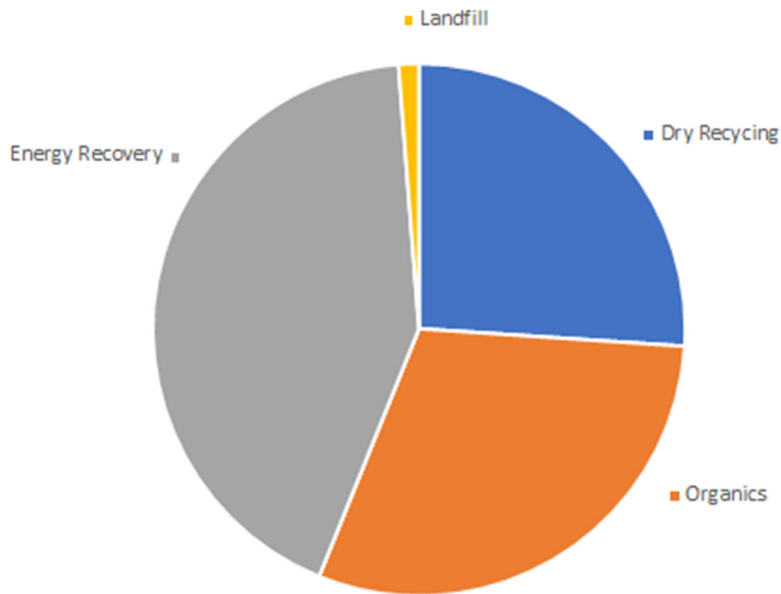
Figure 3.6 Council Waste Arisings Historical Trend



Since 2013 a significant proportion of the residual waste collected by the Council has been sent to energy recovery facilities and used to generate electricity – in 2019/20 this quantity exceeded 52,500 tonnes.

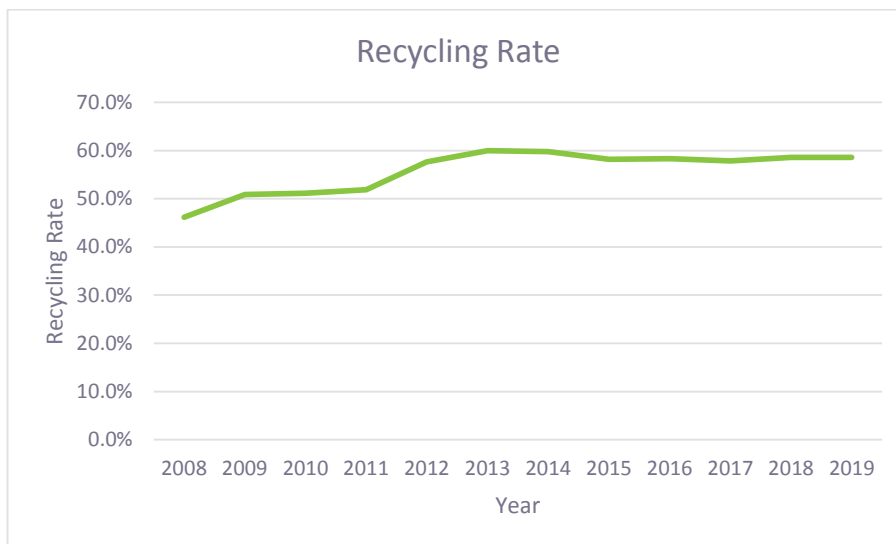
As shown in Figure 3.6, in 2019/20 over half of the household waste (56.4%) collected by the Council through the kerbside services and HWRC's was recycled, composted or reuse (recently this has been as high as ~60%); 42.6% was processed at the waste transfer station, most of which was used to generate electricity. The remaining material was sent to landfill.

Figure 3.7 2019/20 Waste Destinations



Note: Organics are the collected food and garden waste

Figure 3.8 Council Recycling Rate Trends



4. Policy and legislative drivers

This section summarises the key international, national and local legislation and drivers which impact upon the structure of this waste strategy. A detailed assessment of all legislation impacting on the services is provided in Annex A.

4.1 International and National Policy & Legislation

Many of the roots of UK legislation governing the management of waste in this country can be traced back to European Union (EU) Directives, Regulations and Decisions. These are being retained in UK law through the European Union Withdrawal Act 2018 with minimal impact anticipated on how councils collect, recycle and dispose of household waste.

Waste Hierarchy

The revised Waste Framework Directive (2008/98/EC) sets out the waste hierarchy which ranks waste management options according to what is best for the environment (see **Error! Reference source not found.**); top priority is given to preventing waste, and when waste is created, in the first instance it should be minimised and then it gives priority to preparing it for reuse, then recycling, then recovery, and last of all disposal, e.g. landfill. The hierarchy is a key waste management principle to encourage sustainable waste management and anyone producing or managing waste needs to do so in line with the waste hierarchy, including planning for new waste management infrastructure. The Governments documents "Resources and waste strategy – Our Waste, our resources: A Strategy for England (December 2018) and "Waste Prevention Programme for England: Towards a Resource Efficient Economy (March 2021)" set out priorities for action to manage resources and waste in accordance with the waste hierarchy and to focus increased efforts towards those steps at the top of hierarchy.

Figure 4.1 The Waste Hierarchy, as defined by the revised Waste Framework Directive



Circular Economy

A circular economy approach sees waste turned into a resource as part of 'closing the loop' with resources kept in use for as long as possible, with the maximum value extracted from them. It moves away from the more linear economy of 'take, make, use, throw' and prolongs the lives of materials and goods consumed, minimising waste and promoting resource efficiency.

In July 2018, the European Commission adopted an ambitious Circular Economy Package (CEP) introducing a revised legislative framework to help stimulate Europe's transition towards a circular economy, identifying steps for the reduction of waste and establishing an ambitious and credible long-term path for waste management and recycling. As continuation of their aim towards a more circular economy, the UK government have transposed the majority of CEP measures into UK legislation.

The key elements of the legislative revisions for waste include:

- Recycling targets: recycling 65% of municipal waste by 2035; and
- Landfill reduction: the proposals include a ban on landfilling materials separately collected for recycling and a binding target to reduce landfilled waste to 10% or less of all municipal waste generated (by weight) by 2035.

Within England & Wales the recycling target has been transposed in relation to waste management plan requirements.

Environment Bill

The draft Environment Bill (2020) is a key piece of legislation for delivering the commitments made in the 25 Year Environment Plan and for setting long-term legally binding environmental targets, plans and policies for protecting and improving the natural environment in the UK. The Bill will take forward and legislate the measures and proposals outlined in England's Resource and Waste Management Strategy, changing the way government, businesses and individuals produce and consume products. The national Strategy and Environment Bill aims to make it easier for people to recycle, improve recycle quality and make way for a more circular economy. The Bill will allow the Government to:

- deliver consistent and frequent recycling collections across England;
- ensure councils operate weekly separate food waste collections, preventing food waste from going to landfill or being incinerated;
- introduce clearer labelling on certain products so consumers can easily identify whether products are recyclable or not;
- expand the use of charges on single use plastics, following the successful introduction of the carrier bag charge and will introduce a deposit return scheme on drinks containers, subject to consultation; and
- introduce new extended producer responsibility schemes to make producers responsible for the full net costs of managing their products when they are ready to be thrown away.

The Bill is supported by a series of proposals, which are subject to consultation, these will have some impact on the delivery of waste services in the future. Once the consultations are complete and the Government has provided its direction, the Council will need to carefully consider this and as a consequence may have to change some of direction expressed in this waste management strategy.

Aspect of waste management under consideration by the Government include:

Consistency of Household and Business Recycling Collections in England

To ensure the recovery of resources and improve recycling rates, this proposal will seek to ensure a consistent set of recyclable materials is collected from all households and businesses, including food waste. The Government will specify a core set of materials to be collected by all local authorities and waste operators to make services more consistent across the country. In the initial consultation documents, the proposed minimum service standards for collections are:

- weekly separate food waste (i.e., not co-mingled);
- fortnightly compostable garden waste (in the growing season) provided free);
- fortnightly glass bottles, jars and containers;
- fortnightly paper and card;
- fortnightly plastic packaging;
- fortnightly steel and aluminium tins and cans; and
- fortnightly residual waste.

Extended Producer Responsibility (EPR) for packaging

The Government intends to invoke the 'polluter pays' principle with an EPR scheme for packaging by 2023. Producer responsibility will see businesses that manufacture, import and sell certain products responsible for the full net costs of those products at end of life, i.e., post-use stage. This will incentivise producers to design their packaging to make it easier for them to be reused, dismantled and/or recycled at end of life, driving sustainable design decisions to be incorporated at the production stage in support of a more circular economy. EPR is seen as a tool in moving waste up the hierarchy and stimulating secondary markets and will reform existing producer responsibility schemes which are already in place for packaging waste, end of life vehicles (ELV), batteries and accumulators, and WEEE (Waste Electrical and Electric Equipment).

Modulated fees will see producers incentivised to make sustainable design, production and purchasing decisions, with producers who create products which are easy to reuse, repair or recycle pay a lower fee, whilst others whose products are more difficult to recycle will be penalised.

Payment contributions to local authorities for household packaging wastes is to be based initially on complex modelling taking account of issues such as rurality, housing type, deprivation and other criteria, but in the longer term the government intend for this to be based on actual costs incurred.

Introducing a Deposit Return Scheme (DRS)

To incentivise consumers to reduce litter and increase recycling the government are consulting on introducing a DRS whereby consumers pay a deposit on drinks beverage containers at the point of purchase, which is then redeemed when the container is returned to the retailer for recycling. DRS is a form of producer responsibility and by returning the product, businesses are then able to recycle them. If the consumer chooses not to return the container, they forego their deposit. The government are currently considering a DRS that includes aluminium and steel cans, PET plastic and glass bottles but excludes disposable cups, cartons and pouches/sachets. An 'all-in' option would include all sizes up to 3 litres, whereas an 'on-the-go' scheme would be limited to bottles up to 750ml only. The government are consulting on the minimum deposit level set in legislation being 10p, 15p, 20p or other.

In July 2019, the Government published the Consultation responses for the three proposals noted above, along with responses. The second consultation started in April 2021, and at the time of this waste strategy it is not clear what the Government will chose to implement. This presents some risk; therefore, the Council needs to retain flexibility in future service provision to enable the implementation of any required changes

4.2 Local Policy & Strategy

Council Plan

The Council plan sets out the Council's Visions and Values which are described in Chapter 3, all of these visions and values have been considered in the development of this document and all of the accompanying work that has been undertaken. There are four key elements which are specifically impacted by the aims of this waste strategy:

- Tackling the climate emergency:
 - ▶ By making the waste collections more efficient, reducing the mileage travelled and the fuel consumed;
 - ▶ Reducing carbon emissions associated with waste collection by changing to use of low carbon fuels;
 - ▶ By supporting the ability to recycle more dry recyclables and promoting home composting for garden waste generating carbon reduction benefits; and
 - ▶ Through the use of local residual waste treatment processes and where possible the inclusion of combined heat and power to generate future carbon savings from the management of the residual waste.
- Enable more adults to live longer, healthier and happier lives:
 - ▶ By replacing boxes with wheeled bins (for properties that can accommodate them) it can make the waste collections safer and easier to use for residents and operatives; and
 - ▶ By reducing the waste collection fleet mileage and changing to cleaner vehicles and fuels it will reduce emissions and help improve local air quality.
- Make our neighbourhoods even better places to call home:
 - ▶ The use of wheeled bins will reduce wind-blown litter and spills associated with the collection of waste making the County a better place to call home.
- An efficient and empowering Council:
 - ▶ The Strategy seeks to reduce the costs of delivering services whilst maintaining high performance; and
 - ▶ The waste management service will remain agile, adapting to residents needs as they change to ensure they have an appropriate service for their needs at all times.

Place Plan

The Place Plan developed by the Council combined the outputs from the Health and Wellbeing Strategy and Joint Strategic Needs Assessment to develop a plan supporting health and care services. The Waste strategy does not directly align to the specific intentions of the Place Plan but through the implementation of the new services the Council aims to reduce the impact of the waste collections to make it easier for residents to safely manage their waste, reduce the harmful emissions from our waste collections and reduce the environmental impact of the service as a whole.

5. The strategic options considered

This section sets out the options considered in the options appraisal process used by The Council to develop the options presented for public consultation.

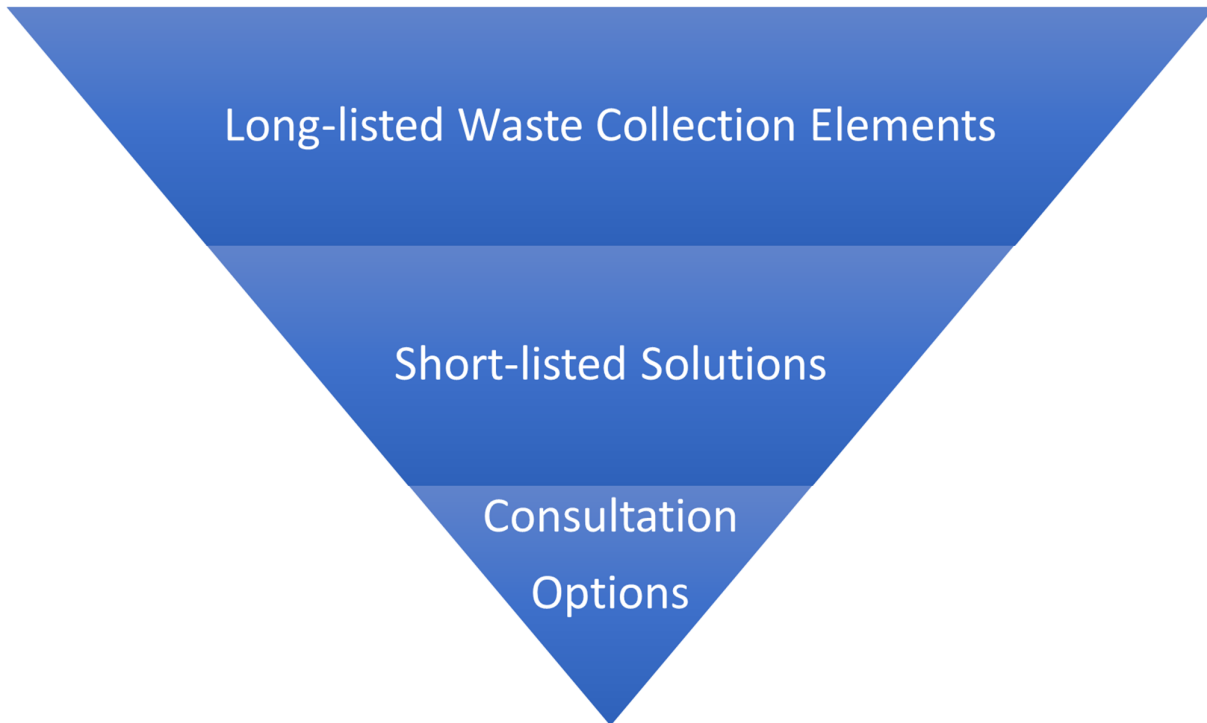
The identification of strategic options commenced with a wide ranging consideration of potential actions and activities that could be implemented for the management of waste, this resulted in an extensive longlist of options being identified. The longlist encompassed aspects such as:

- Alternative collection methods & frequencies:
 - ▶ Waste collected (which materials are separated for recycling);
 - ▶ Wastes containers (type and capacities);
 - ▶ Recyclate separation (fully separate/co-mingled);
 - ▶ Collection frequencies; and
 - ▶ Seasonality of collections.
- Charging for collection;
- Vehicle types and the use of alternative fuels;
- Residual waste treatment technologies; and
- Communications and engagement.

The Places Scrutiny Committee Task Group (a selection of cross party members) attended a series of workshops to consider the waste management options considering local and national environmental considerations, and the impact they would have against high level strategic objectives. To ensure understanding of all elements of the current service this work also included site visits to the current waste collection, treatment and household waste recycling facilities and analysis of the arrangements with our key suppliers.

A shortlist of compatible waste management options and collection methodology were developed through scenario modelling for further review and scrutiny. This exercise resulted in the identification of key priorities and various options for the future service which were then included within the public consultation: "Don't let your future go to waste".

Figure 5.1 Options Funnel



The feedback from the consultation and the outcome of the options assessment will be used to define an overarching waste collection system which meets the strategic requirements of the Council whilst supporting the requirements of residents. The waste collections will be complemented by supplementary actions and activities that were considered appropriate during the long-list evaluation process to develop the overall waste management strategy which complies with the priorities of:

- Reducing overall waste;
- Increasing reuse and recycling;
- Delivering an efficient and cost-effective waste management service; and
- Tackling the climate change emergency and protecting our environment.

5.1 Kerbside Collection Service

Two waste collection options (options A & B) were set out in the public consultation documents for the kerbside waste collection service operated by the Council. The Council recognise fully that these would not be suitable for all households and, as currently, a suitable alternative collection system will be provided to those that need it.

Both options (A and B) retain the weekly collection of food waste,

Option A has household waste, garden waste and two types of recycling collections collected on alternating weeks on a fortnightly basis.

Option B has the same waste streams collected on a three-weekly rotation basis.

The alternative schemes are set out in the Figures 5.2 and 5.3 below.

Both options A & B provide a more efficient and sustainable collection system than currently operated by the Council whilst maintaining high levels of recycling. They result in a smaller fleet of collection vehicles and a reduced carbon impact from a climate change perspective. The containers proposed also addresses issues raised by consultation respondents concerning the existing recycling boxes.

Figure 5.2 Option A

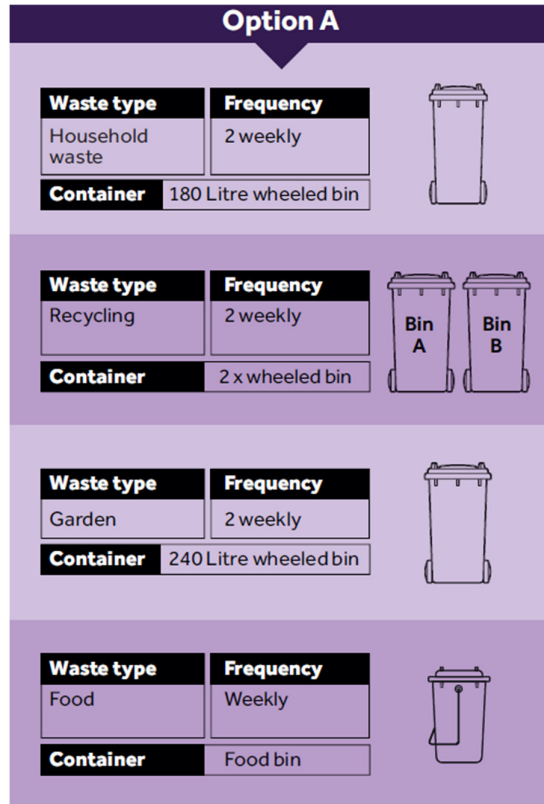
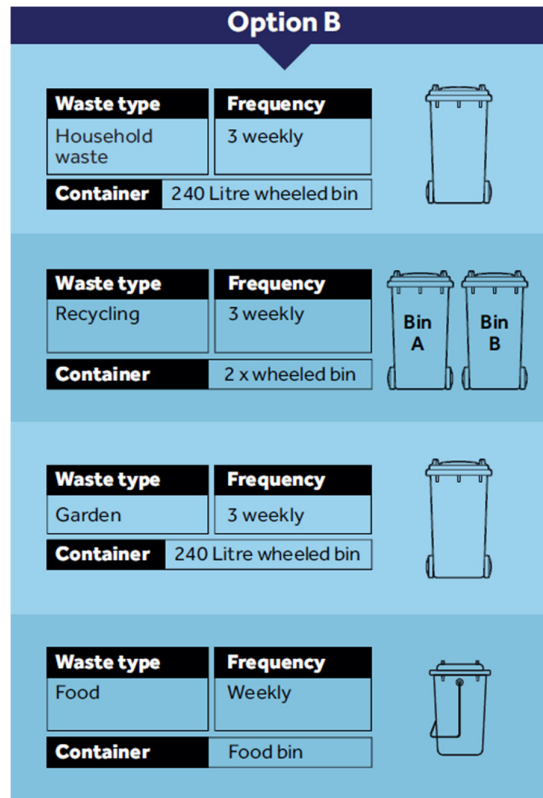


Figure 5.3 Option B



5.2 Garden Waste

The assessment of garden waste services considered that garden waste is not generated evenly across:

- The year - during the winter the quantity of garden waste generated is very low as less work is undertaken in gardens; or
- Properties – some households have no gardens at all, some only have very small gardens and generate negligible amounts of material, whilst other properties have very large gardens and exceed the available bin capacity.

Considering these issues, two consultation options were identified which ensure that the Council continue to provide a service but can deliver it in a more appropriate manner:

- Option 1 – Increase the service shut down period so the service aligns to the peak growing period; or
- Option 2 – Introduce an opt in garden waste subscription service so the service is only provided to those residents that want it but ensure that those residents that do subscribe can receive an appropriate collection.

6. How the Council will deliver our priorities

This section how the results of the consultation have been considered used to develop the waste strategy and deliver the Council's priorities.

6.1 Kerbside collection service

The provision of an appropriate kerbside collection service will help to address our priorities of:

- Increasing reuse and recycling and reducing overall waste;
- Delivering an efficient and cost-effective waste management service; and
- Tackling the climate emergency and protecting our environment.

Following the options appraisal process, two waste collection options (options A & B – set out in detail below) were identified as being appropriate for implementation as a long-term replacement for the existing kerbside collection services. Either of these two options would have met the Council's strategic aims and were therefore taken to public consultation as the basis for the Council's new kerbside waste collection service. It is recognised that this collection methodology would not be suitable for all households and, as with the current service a suitable alternative collection system will be provided to those households that need it.

Both options (A and B) retain the weekly collection of food waste in order to minimise any issues around pests or smells:

- Option A has household waste, garden waste and two types of recycling collections collected on alternating weeks on a fortnightly basis; or
- Option B has the same waste streams collected on a three-weekly rotation basis.

The alternative schemes are set out in the Figures 6.1 and 6.2 below.

Figure 6.1 Option A

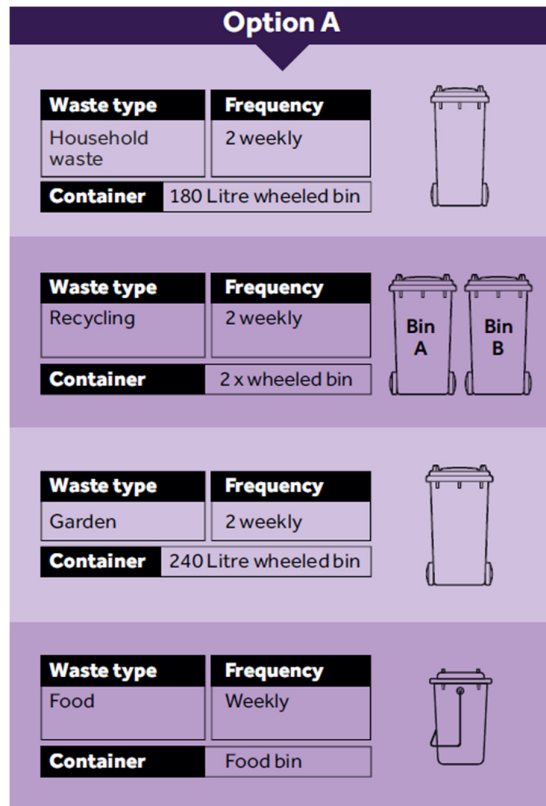
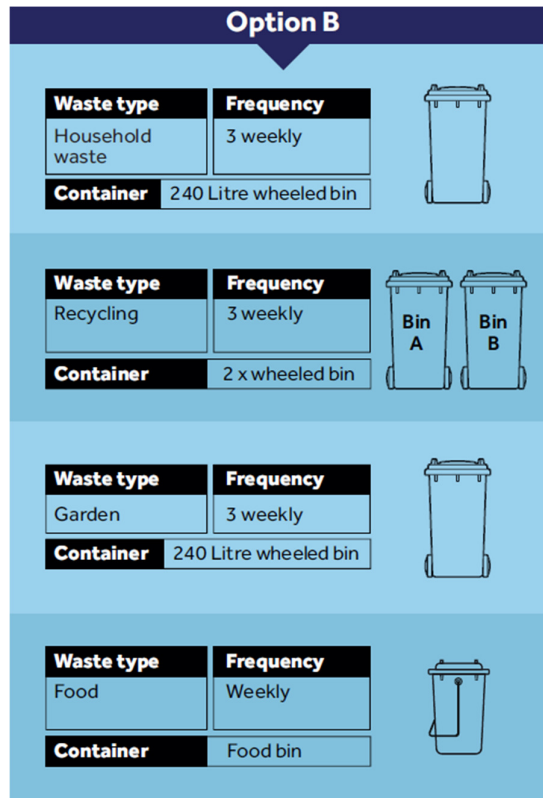


Figure 6.2 Option B



In the consultation, respondents identified a number of barriers to recycling, key amongst those were:

- Confusion over what materials can be recycled and how these are set out for collection;
- Lack of capacity in the existing containers (boxes);
- The loss of box lids and spillages;
- The low durability of the boxes and consequent damage; and
- Difficulty in moving and handling the existing boxes.

Both options A & B provide:

- A simplified approach to the separation of recyclables from the kerbside making it easier for householders to understand what to place in each container;
- A more efficient and sustainable collection system whilst providing more capacity to recycle more;
- A less strenuous set of containers for both residents and operatives to move, wheeling the bins reduces musculoskeletal strain compared to lifting boxes, making it easier for residents move the containers to the kerbside and make it safer to recycle more; and
- A smaller fleet of collection vehicles and a reduced carbon impact from a climate change perspective.

The consultation identified that respondents strongly preferred Option A, the fortnightly alternating kerbside collection service. Implementing option A (with clear container labelling), will allow the Council to address the barriers identified from the consultation process. The system is successfully implemented in a number of

other high performing Councils and should be suitable for the majority of properties served, however, it is recognised that some properties cannot accommodate the change to wheeled bins so the Council will also consider suitable alternatives for the affected residents.

Alternating Weekly Collections (AWC)

The use of alternating weekly collections (AWC) of recyclables using wheeled bins for the materials is seen in a number of high performing English Councils; including 4 of the top 5 recycling authorities in 2020. These Councils all achieved recycling rates in excess of 63%.

St. Albans City and District Council in particular achieved a 63% recycling rate using the same combination of fortnightly collections of recyclables with separate bins for paper & cardboard and containers and separate food waste collections on a weekly basis.

Adur and Worthington Council in West Sussex moved to a AWC service from September 2019 with general waste collected one week and the recycling collected the next – the recycling rate is 8% higher than before the change to AWC.

Under the new collection system, the available capacity for recyclables would increase from 220L/fortnight under the current box scheme to up to 480L/fortnight, more than doubling the space available making it easier to recycle more.

The use of a “twin stream” system, where paper and cardboard are placed in one wheeled bin and other recyclables placed in the other means that it will be easier to understand what materials can go in which container making it simpler to recycle more. The Council will also provide enhanced communications to support residents in understanding the new waste service and how to use it.

As part of the consultation, respondents expressed concerns about litter, spillages and the loss of lids from the current boxes; the use of wheeled bins will be less susceptible to the generation of windblown litter, boxes being blown over and lids lost. The wheeled bins have solid lids that are less likely to come open and the collection vehicles have closed sides so there is less potential for collected material to be blown out as the vehicles move around the streets. This will both increase the material collected for recycling and improve our streets and local environment.

The use of comingled twin stream recycling collections will mean that recycling collections are quicker and safer for the operatives. This more efficient collection approach will mean that fewer vehicles are required to collect the same amount of material, consuming less fuel, producing fewer emissions and a reduced carbon impact. The change in collection efficiency provides an opportunity to review collection rounds and, although this may mean that collection days change for some residents, it will improve efficiency and reduce environmental impacts from the service. Residents will be informed of any changes, well in advance of these being implemented.

Ahead of the roll out of the service the Council will:

- Issue all households with supporting information about the new service including:
 - ▶ What materials can be put in each container;
 - ▶ When containers will be emptied / collections will take place; and
 - ▶ How to request alternative containers.
- Supply all households with the new containers needed for the service; and
- Provide ongoing support to householders as they adjust to the service.

The Council will identify those households that are not suitable for the standard service and will put an exception process in place that is appropriate and also allows them to recycle as much as possible. The Council will ensure that the service is agile and flexible to respond to the changing needs of individuals as those needs arise.

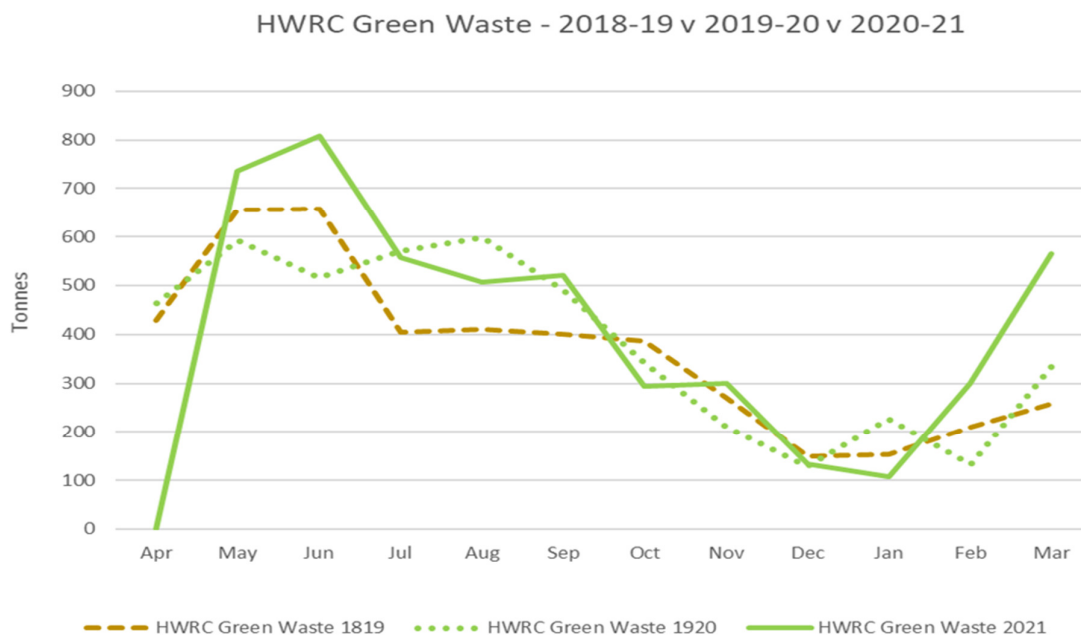
The Government is consulting on a series of changes to how waste is managed nationally, the Council will continue to monitor the progression of these consultations. There is a need to continually review the services provided and identify where there may be a need to amend these to comply with changes to national legislation. Service performance will also be reviewed with a view to further developing the services where it appears that recycling improvements, carbon savings or additional efficiencies may be achieved.

6.2 Garden Waste

Due to increasing financial pressures, the Council must make some tough decisions in order to sustain the overall waste management service going forwards. The continued provision of a free garden waste collection service throughout the year is not an option the Council can continue to sustain or is obliged in law to provide. In assessing options for the service, it is clear that garden waste is not generated evenly across:

- The year - during the winter the quantity of garden waste generated is very low as most gardens are dormant during this time meaning less cutting work is required but continuing the collection services in the same way throughout the year requires the Council to deploy the same resources for collection. In 2019/20 the amount of garden waste collected each month by the Council dropped by as much as 87% between the peak growing season and the winter months. This trend was also seen in the garden waste received at the HWRCs as shown in figure 6.3; and
- Properties – some households have no gardens at all, some only have very small gardens and generate negligible amounts of material, whilst other properties have very large gardens and exceed the available bin capacity. The service is currently provided to around 70% of all households.

Figure 6.3 HWRC Garden Waste Arisings



Considering these issues, the following consultation options were identified to ensure that the Council continue to provide a service but can deliver it in a more efficient and appropriate manner:

- Option 1 – Extend the period of service suspension so that the service aligns to the peak growing period; and
- Option 2 – Introduce an opt in garden waste subscription service that is only provided to those residents that want it and ensures that those residents that do subscribe can receive an appropriate collection.

In addition, the Council asked whether the Council should cease to collect garden waste at all. Very few respondents to the consultation were supportive of the withdrawal of a garden waste collection service.

A charge would give people the choice whether or not to use the service. Currently, all households in Cheshire West and Chester contribute via their council tax, even if they don't have a garden.

The provision of a fairer and more appropriate waste collection system will help the Council to deliver an efficient and cost-effective service and reduce carbon emissions by taking up to four waste collection vehicles off the roads.

The consultation showed that charging for garden waste collections is unlikely to be popular with all residents, but the Council strongly believe it is the right course of action to deliver the key priorities and maintain a fair and sustainable service.

Garden waste collections

Over 200 councils in England charge for a garden waste service with charges typically ranging across the country from £25 to £90 per annum. Charges are often discounted where residents subscribe online, and some councils also offer residents additional bins under the service (chargeable) as well as encouraging residents to share garden waste bins with neighbours.

After introducing charges, garden tonnages dropped substantially for some councils, with Gloucester City Council experiencing a 38% drop in tonnages after implementing a chargeable service. Other local authorities have reported a relatively small impact on introducing charges for garden waste collections, in 2017 Reading Borough experienced a drop in the number of residents receiving the service of only 6%.

The recycling rate for several councils decreased following the implementation of a garden waste scheme, with the rate typically decreasing by 2-3%, although in some cases it was as much as 7%. In the Wirral, there was a 64% increase in garden waste collected at the HWRC over June to October compared to the before charges were introduced. There was a 44.6% decrease in tonnages at the kerbside. Kerbside residual waste tonnages increased by 1%.

In the Wirral, collection vehicles have an electronic record of residents who have subscribed, and residents are issued with a permit that they must fix to the bin. Several Councils issue residents with a garden waste sticker that they must fix to their bin if they have subscribed to the service.

Several local authorities in North West England have increased the period of service suspension during the winter season, as well charging for garden waste collections. Examples include; Warrington Borough Council, Halton Borough Council, St. Helens Council and Blackpool Council, with the fortnightly collections suspended variably between November and March.

The Council will offer the chargeable garden waste collection service over the growing season (March to November). This will avoid making unnecessary collection journeys during the winter - ensuring best use of resources and supporting a reduction in the carbon emissions from the fleet. Those residents that have larger gardens will be able to increase their subscription to receive an additional garden wheeled bin. The total number of additional bins available to each household is yet to be determined.

Ahead of the implementation the Council will:

- Review the subscription charges to ensure that they are appropriate;
- Communicate with all households to ensure that they have information required to understand whether they want to opt-in;
- Provide all those households that opt-in with identification for their bins; and
- Confirm an approach to recovering the bins from those households that do not want to retain the service.

6.3 Household Waste Recycling Centres

The expiry of the current contract with HW Martin in 2023 provides an important opportunity for the Council to review the HWRC sites and service with the aim of delivering the following priorities;

- Increasing reuse and recycling and reducing overall waste; and
- Delivering an efficient and cost-effective waste management service.

Residents strongly supported the Council's aim to reduce overall waste, therefore as part of the review of the HWRC services the Council will look to ensure the continued and appropriate provision of recycling services alongside an increase in the potential for reuse at the sites. Five of the Council's HWRC sites (at Chester, Ellesmere Port, Neston, Northwich and Winsford) already have 'Reuse shops'. The Council will look to build on this by examining the potential for collecting more items for repair (in partnership with local charities) and investigating the potential for an online outlet for materials collected through the reuse schemes. By collecting items for reuse, the Council can reduce the amount of material that has to be disposed of through processing and treatment and provide residents with access to pre-loved items at affordable prices

HWRCs – reuse

Research undertaken by WRAP identified that approximately half the bulky items taken to HWRCs are immediately reusable, or, can be reused with minor repair. Several authorities have or are developing reuse facilities, particularly where there is a repair workshop or retail facility linked to the operations. It is becoming a more prominent feature at HWRC sites and built into contracts as local authorities, waste management companies and charities can realise the financial benefit. Well managed re-use facilities are known to increase Council recycling rates and support the local community. These features offer training and upskilling opportunities as well as jobs.

A reuse feature has been built into an innovative HWRC contract within Buckinghamshire, which allowed a local charity to set up shops on two HWRC sites and includes refurbishment. The initiative has seen a substantial increase in the volume of waste diverted from landfill.

The Jericho Foundation is an employment and skills charity that manages 'The ReUsers shop' adjacent to one of the recycling centres in Birmingham - it provides a place to donate unwanted items that are too good to throw away. The ReUsers rescue, restore and recycle second-hand items. Their ethos is that "second-hand can be first choice" and have prevented around 250 tonnes of waste entering landfill every year by providing high-quality used goods at cost-effective prices. Items accepted at the site include furniture, bicycles, garden tools, bric-a-brac, televisions and other electrical goods.

The Council is aware of issues with various HWRC sites concerning access, usage, location and opening hours, some of which has been exacerbated by the COVID 19 crisis. This was confirmed through responses to the consultation. Ahead of the current contractual arrangements coming to an end in 2023, the Council will undertake a detailed review of all of the sites to ensure that they are efficient, fit for purpose and able to support the key strategic priorities. As part of this review the Council will:

- Consider whether the current provision of sites (numbers and locations) is appropriate;
- Review opening hours across the sites to ensure that they remain appropriate;
- Identify potential for expanding opportunities for reuse and repair of materials brought to the sites – building upon the Reuse shops that are already in place;
- Review the use of the pilot trade waste site and consider whether a better and more efficient service could be provided. The Council will engage with users and explore whether it should continue to offer an alternative form of Trade Waste provision to mitigate the impacts of this closure;
- Explore charging for some types of waste (such as soil, rubble and hardcore from building work) at recycling centres to cover the increasing costs of disposal / processing – respondents to the consultation noted concerns around increased fly tipping resulting from implementing any charges. Cheshire East introduced charging for some HWRC materials (e.g., hardcore) in 2018. The amount of hardcore received at the sites decreased by 80%. Cheshire East Council noted "There was concern that the incidents of fly-tipping would increase greatly as a result of this charge, this has not been the case in the first quarters of operation."; and
- Consider potential for cross border working with surrounding Councils.

It should be noted that planning permission on the Frodsham HWRC is due to expire on 22 August 2021, and the Council will therefore need to support residents who currently use this site to access alternative provision.

HWRCs – cross border use

A number of authorities have cross-border provisions in place for HWRC use, including Hampshire County Council with West Berkshire and Dorset Councils. The provision allows residents who live closer to the site in another region to continue to access the facility whilst the council contributes to the costs incurred as a result. Hampshire residents are charged £5 to use a HWRC site in West Berkshire. E-permits and ANPR systems are used to facilitate the cross-border usage.

Similar agreements exist between Kent County Council and Medway and Bexley and Bromley. The £5 charge for non-authority users has seen usage by non-Kent residents reduce significantly resulting in cost savings for Kent County Council.

When the current operating contract expires in 2023, the Council will either commission this service for delivery by CWR Ltd (subject to a detailed best value assessment) or, procure a new contract through open tender. The review being undertaken will support the Council to confirm the most appropriate approach. The service will be structured to ensure that it provides:

- Best value;
- Flexibility to promote waste minimisation activities and increase levels of reuse and recycling; and
- Support the Council's commitment to its vision and values and help to address the climate emergency.

6.4 Waste Treatment and Processing

Ensuring an efficient and appropriate means of treating and processing the waste that is left after reuse and recycling (residual waste) will address the priorities of:

- Delivering an efficient and cost-effective waste management service; and
- Tackling the climate challenge.

There is an increasingly urgent need for everyone to reduce the amount of waste they produce. Waste processing and treatment causes negative environmental impacts and significant cost. Whilst the current contractual arrangement provides certainty and good value, there is no guarantee that such commercial terms will still be available within the market, thus increasing the risk around future treatment and disposal costs.

In order to divert waste away from landfill, which has a significantly greater cost and detrimental impact on the environment, most Local Authorities process residual waste that cannot be recycled through Energy from Waste Facilities (EfW). Cheshire West and Chester have a waste processing and treatment contract for EfW with FCC Environment which is due to end in early 2024.

The consultation noted that the Council will continue to divert waste away from landfill using processing methods such as EfW and anaerobic digestion for food waste.

Due to the impacts of processing everyone must continue to drive down overall waste and as the current contract comes to an end, the Council will work with the market to exploit emerging technologies that minimise the environmental impact and cost of processing. A number of different waste management facilities continue to be developed around the region, which provide the potential to manage waste more locally reducing the cost and the impact of transporting it for treatment.

Most importantly, the Council must continue to encourage and support residents to drive down the volume of waste that is produced. This will be the most effective and efficient way of delivering waste services over the duration of this strategy. As part of this, the Council will also endeavour to promote the food waste collection service and encourage residents to use this. Where possible the Council will work to overcome the barriers that prevent residents using this service to its full extent.

Whilst the Council will strive to achieve higher recycling rates, it recognises that there will be a continued need to manage residual waste. A replacement treatment and processing contract will be procured that:

- Recovers value from the residual waste;
- Will be competitively tendered to ensure that it provides best value;
- Will be flexible to allow continued support of waste minimisation activities and increasing levels of recycling;
- Aligns to the Council's visions and values;
- Ensures the solution supports the commitment to address the climate emergency; and
- Considers the proximity principle and aim to treat waste locally where appropriate.

6.5 Waste Collection Vehicle Fleet

The provision of an appropriate waste collection system will address the Council's priorities of:

- Delivering an efficient and cost-effective waste management service; and
- Tackling the climate challenge.

Within the consultation responses there was support for the Council considering using alternative fuelled collection vehicles. The Council are working with their collection provider (CWR Ltd) to consider how these can be incorporated into the collection rounds. Due to the rural nature of much of the area full electric

The Use of Greener Fuels for Waste Collection

In late 2020 the London Borough of Islington became the first London Local Authority to deploy fully electric refuse collection vehicles (eRCVs) as part of an initiative to improve local air quality. The Borough Council introduced two 26t eRCVs to its fleet and is also seeking to reduce the overall size of its waste collection fleet.

The introduction of the electric RCVs was facilitated by a £3.5M development at the Council's Waste and Recycling Centre involving the installation of a new sub-station, high voltage supply and charging infrastructure for the electric vehicles.

In early 2021 the Greater Manchester Combined Authority committed £9.7M to purchase of 27 new eRCVs (approximately half of the Authority's collection fleet). This believed to be the largest commitment of its type to date by a UK Local Authority and has been accompanied by a £880k investment in vehicle charging infrastructure at two of its depots. The deployment of the quiet, low emission eRCVs is expected to be completed by June 2021 and to reduce greenhouse emissions by 900 tonnes per annum.

powered-refuse collection vehicles (eRCVs) would not currently be practical to operate in all areas, as they currently have limited range, however hybrid vehicles are currently being introduced and CWR have recently added some fully electric vehicles into the fleet for use in several urban collection rounds which typically have less miles to cover. The Council will continue to monitor the development of alternative fuel technologies and will take advantage of opportunities to incorporate alternative fuels into the fleet when purchasing new vehicles in order to help reduce emissions and the carbon impact of the collections.

The Council will ensure waste collection operations contribute to its work to address the climate emergency. As new vehicles are procured the use of alternative fuels will be considered and adopted where they are suitable to the geography of the borough and structure of collection rounds. Where alternative fuels are not considered appropriate, the Council will minimise the impacts of the collection vehicles as far as possible, this will include:

- Round optimisation to ensure that collections are as efficient as possible;
- Purchasing Euro VI (as a minimum) diesel vehicles with a view to repowering these to low carbon fuels as the technology and infrastructure allows;
- Use of hybrid vehicles to minimise fuel use;
- Trialling electric/alternative fuel vehicles to assess applicability; and
- Using electric vehicles on appropriate rounds.

6.6 Education and Awareness

The provision of enhanced waste education, awareness and behavioural change activities by the Council will help address the following Council priorities:

- Increasing reuse and recycling and reducing overall waste;
- Delivering an efficient and cost-effective Waste Management Service; and
- Tackling the climate challenge.

As part the consultation residents indicated that they would like more information to support them in reducing the waste they produce and increasing the amount they can recycle. The Council will support residents in making informed decisions on how to reduce the amount of waste they produce by delivering an enhanced communication and support programme.

Service Support

A-Z for recycling on local authority websites is an effective way of making it clear to residents what can and can't be recycled. Powys list 126 items on their website. Warwickshire County Council currently list on their website the types of plastic film accepted at supermarkets to encourage residents to use supermarkets or collection points for materials not collected at the kerbside.

Respondents to the consultation said they wanted the Council to continue to provide a range of communications channels but with strong preference for online information and support. The Council will deliver an effective multi-media communication campaign to support the roll out of the new collection services. This communication campaign will provide householders with the support they need to understand the changes to the materials that can be recycled, where materials should be placed and when the bins will be collected, this is likely to include a new service introductory brochure, bin stickers and online guidance.

Online Engagement

A number of Councils are implementing online support for residents; Oxfordshire County Council have introduced the 'binzone' app, Cheshire East have the 'waste watchers' app which residents can download, giving them access to a single, easy to use portal which includes content on collection days and what to put in each bin.

In East Devon you can ask Alexa what can and can't be recycled in the area. Cloud 9 technologies partnered with the council to create a mobile app to better engage with residents and increase recycling rates.

The Council will continue to provide ongoing support to allow residents to easily understand how to recycle, what happens to their waste and to report issues that they face. This can include providing support on eliminating avoidable waste, reducing the waste generated or increasing the amount recycled from households.

Working together over the last decade, the Council with the help of residents has made great progress in improving the way waste is sustainably managed and the waste hierarchy implemented. However, working together, there still a lot to do and new priorities are emerging, as shown by the Council's commitment to tackle climate change and its single use plastics pledge. To deliver these commitments the Council will ensure the residents Cheshire West and Chester are fully aware of work to deliver these initiatives and how they can contribute to their success.

Waste Minimisation Support

To educate residents on the damage single-use plastics have done to the environment, Cheshire East have a 'Life with less plastic' campaign and toolkit which received a lot of attention from schools and led to events and talks. The web-site states that children embraced the concept as they were saddened at the damage being done to marine life. Online community toolkits can provide ideas of swaps/alternatives that can be made around the home, at work or when travelling to reduce plastics use.

Manchester City Council designed a MasterChef competition using leftover ingredients to engage with their large student population on food waste. This demonstrated to students that a good quality meal could be made from leftover ingredients and encouraged them to think more about how they could save money by disposing of less food. Students were also provided with practical tips on how to reduce the quantity of food they throw away. Costing just £1,200 to set up and run, the competition was a cost-effective way of getting 'Love Food Hate Waste' messages over to Manchester's large student population.

6.7 Litter and On-the-Go Recycling

The provision of appropriate litter infrastructure will address the priorities of:

- Delivering an efficient and cost-effective waste management service; and
- Tackling the climate challenge.

Good quality and appropriate bins in communities that make it easy for residents to dispose of waste in the right way is crucial. The Council will:

- provide enough suitable sized bins in suitable locations and ensure that there is an efficient servicing structure;

- support residents by making sure that they can report litter and fly tipping issues easily; and
- follow an efficient planned schedule to remove litter from roads and pavements.

At the time of writing this strategy, the Government is considering introducing a Deposit Return Scheme (DRS) whereby an upfront deposit on drink containers will be applied at the point of sale which can only be redeemed when the item is returned for recycling. Should the Government implement a DRS for drinks containers in England the Council will work to support the initiative where possible by aligning collection systems.

To reduce the number of journeys by waste collection vehicles and ensure that litter bins are only emptied when necessary, the Council will explore increasing the number of compacting bins and smart bin technology.

Deposit Return Schemes

Several countries across Europe have successfully implemented various forms of deposit return scheme (DRS). These include Croatia, Denmark, Estonia, Finland, Germany, Iceland, Lithuania, Netherlands, Norway, and Sweden.

The most successful example is Norway which has operated a DRS scheme since 1996 and achieved a 97% recycling rate for plastic bottles by using a mixture of reverse vending machines and collection points. Germany also has an established and wider ranging DRS programme, targeting glass, plastics, and metal (aluminium) with a fee levied on the price of each item. The German DRS scheme has achieved an overall return rate of 98.4%.

The Council is currently developing a litter framework and will enforce and monitor this to support the reduction of littering in the region. Wherever possible, the Council will support enforcement action against people that litter and fly-tip reducing the impact on our local environment.

6.8 Localisation

The provision of localised solutions for waste management will address the priorities of:

- Increasing Reuse and Recycling;
- Delivering an Efficient and Cost-Effective Waste Management Service; and
- Tackling the climate challenge.

Within the consultation it was clear that there was support for local solutions to waste management issues and this is supported by the 'proximity principle' within the waste management concept where waste should be managed as close to the point of production as practical. To deliver this the Council will:

- Work with community groups, schools and local businesses to provide local support and develop localised solutions to waste management issues;
- Work with local charities and organisations to identify opportunities for re-use and refurbishment of items collected through the HWRC network;
- Consider the proximity principle and minimisation of carbon emissions from transportation during tender evaluations to promote local solutions and support the development of waste management technologies within Cheshire West and Chester particularly where these promote the Circular Economy; and

- Wherever possible work with local communities and the Environment Agency to investigate fly tipping and prosecute offenders.

7. Implementing the New Waste Services

This section sets out the Council's proposed plan for delivering waste collections, treatment and disposal across Cheshire West and Chester.

Table 7.1 sets out the actions to be implemented from the development of this strategy and the indicative timescales.

Table 7.1 Waste Strategy Implementation Plan

| Area | Actions | Timescales |
|---------------------------------|--|--|
| Waste Collections Scheme | Confirm new service approach | The service approach can be finalised following the release of the "consistency collections consultation" outcomes. |
| | Identify households that require alternative Service Provisions | The household review can commence once the service approach is completed. |
| | Procure new containers | The procurement process for the supply of new containers will need to be initiated well in advance of service roll out. |
| | Undertake route optimisation and rezoning re-zoning | Collection rounds for the new kerbside service will be optimised for efficiency. |
| | Issue service guidance documentation | The service information can be issued to residents approximately one month in advance of service change |
| | Issue new containers | Review of the Council's container management policy. Roll out new containers to be planned and completed prior to service change |
| | Commence New Service | The new service can commence once bins have been issued and new fleet have been delivered. Target date is 3rd quarter 2022. |
| Garden Waste Collections | Review the subscription charges | The subscription charges to be considered and set prior to the roll out of the revised service |
| | Payment options review and method determined | Details of the opt in method and payment process to be defined |
| | Communicate details of the scheme with all households | Communications can begin following the confirmation of the subscription charge. |
| | Provide opt-in households with bin identification | Opt-in identification can be issued to residents approximately 1 month prior to the service commencement. |
| | Service commencement | Implement the new opt in chargeable green waste service by April 2022 |
| | Recover bins from properties that opt out | Option for those properties that request this following the commencement of the new service approach. |
| Fleet | Introduction of hybrid vehicles and initial deployment of two initial eRCV | Underway in 2021 |

| Area | Actions | Timescales |
|-------------------------------|---|--|
| | Procure new recycling vehicles to meet the requirements of the service | To be completed once the service approach has been finalised, vehicles to be procure for delivery ahead of the 2022 roll out of the new service. |
| | Fleet Re-procurement | Collection vehicles will require replacement at the end of their working life |
| HWRCs | Review service provision including: <ul style="list-style-type: none"> Sites & locations Opening hours Trade Waste provision Cross border working Charging for some no household materials | The service reviews will need to be identified ahead of the commencement of the HWRC management contract procurement. |
| | Procure new HWRC management Contract | Contract will need to be procured to commence 1 st April 2023 |
| Treatment and Disposal | Procure new residual waste treatment and disposal Contract | Contract will need to be procured to commence 1 st April 2024 |
| | Review AD provision as appropriate | Ongoing |
| Litter | Develop a litter framework to: <ul style="list-style-type: none"> provide enough suitable sized bins in suitable locations and ensure that there is an efficient servicing structure. support residents by making sure that they can report litter and fly tipping issues easily follow an efficient planned schedule to remove litter from roads and pavements. | Ongoing |
| | Work with local communities and the Environment Agency to investigate fly tipping and prosecute offenders. | Ongoing |
| Localisation | Work with community groups, schools and local businesses to provide local support and develop localised solutions to waste management issues. | Ongoing |
| | Work with local charities and organisations to identify opportunities for re-use and refurbishment of items collected through the HWRC network. | Ongoing |

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