

JOINT COUNCILS

ADDENDUM TO THE WASTE MANAGEMENT PLAN

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Prepared by:

RPS

Ciara Devine
Eva Doyle
Angela McGinley
Jill Doherty

Elmwood House
74 Boucher Road, Belfast
Co. Antrim BT12 6RZ

Prepared for:

Armagh, Banbridge & Craigavon Borough Council
Fermanagh & Omagh District Council
Mid Ulster District Council

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1 INTRODUCTION

This document has been prepared as an Addendum to the Joint Councils Waste Management Plan which was determined by the Department of the Environment (now DAERA) in 2016.

The Councils acknowledge that waste management is continually evolving therefore this addendum was drafted to:

- Reflect changes and up-to-date waste legislation and regulations.
- Provide detail on current performance and waste arising's.
- Identify and analyse information on relevant Policies and Procedures that may inform any future/further review of the plans as the strategic and statutory environment stabilise.

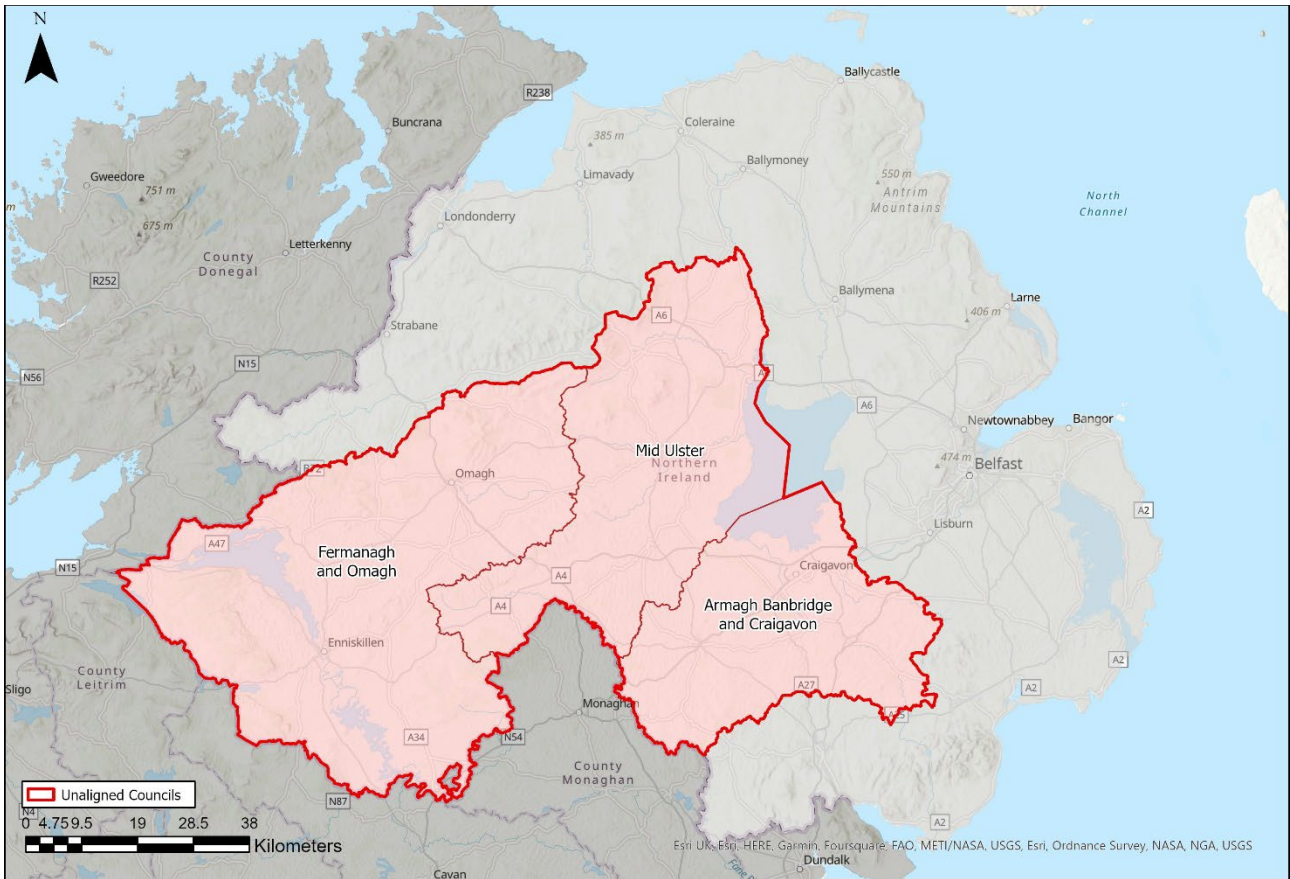
1.1 Background

The Joint Councils group represents a voluntary grouping of 3 district councils who include, in alphabetical order:

- Armagh, Banbridge & Craigavon Borough Council
- Fermanagh & Omagh District Council
- Mid Ulster District Council

The 3 Council areas are all situated from mid to south of Northern Ireland as shown in Figure 1.1 below. they have a combined area of 6,021 square kilometres, which is 44.3% of the area of the country, and a combined population of 485,761 (2021 census) which is 25.5% (2021 census) of the population of Northern Ireland.

Figure 1.1: Council Boundaries



1.2 Joint Councils Waste Management Plan

Waste management plans were first prepared for these Councils in 2000, which set out detailed actions for the period 2000 to 2005. This was under a combination of the North West Region Waste Management Group (NWRWMG) and the Southern Waste Management Partnership (SWaMP) groupings at that time. These plans were revised in 2006 and cover the period 2006 to 2020. These were detailed plans and included identifying capacity needs, potential sites and/or siting criteria and the services required for the collection treatment and disposal of the wastes in the Council areas. After the Review of Public Administration in 2015 the Councils at that time were restructured into the current Council areas. The grouping formally known as SWaMP2008 no longer exists as a body corporate. Consequently the remaining Councils beyond those in the arc21 and the North West Region have formed a joint interest group for the purposes of waste management planning. A Plan covering the 3 Councils above was subsequently published in 2016.

As part of the preparation of this Addendum post 2020, it was clarified with the Department that the Councils do not need to produce 6-yearly plans¹ but that the development of an effective waste management plan should be a continuous process. Plans require regular review and refinement to ensure that the implementation programme continues to be relevant and that the initial objectives are still appropriate. At this stage in the delivery of the waste management plan, it is necessary to review the management of waste to take account of

¹ This duty rests with the Department under The Waste and Contaminated Land (Northern Ireland) Order 1997 (Article 19)

new legislative requirements and to focus on interventions that can ensure the Councils' delivery of the Plan and compliance with revised legislative targets. It is important to note that the Councils have a statutory requirement under The Waste and Contaminated Land (Northern Ireland) Order 1997 (Article 23) to have in place a Waste Management Plan.

1.3 Timescale

The purpose of this Plan is to undertake a review of the Waste Management Plan from 2015 through to 2023. It is anticipated that a more comprehensive review will be required once the new DAERA Waste Strategy is published given that there are a considerable number of new Government initiatives which are likely to need to be framed within it. It is anticipated that the Waste Strategy will be published in 2025 and hence this Addendum covers the period up to the end of 2027. It is expected that the revised DAERA Waste Management Strategy will frame the various legislation and initiatives outlined in Section 2 in a manner which Councils will be able to consider and respond to as part of their new Waste Management Plan.

The review of the Waste Management Plan to take account of the Waste Strategy is a significant undertaking and assuming the Waste Strategy is published during 2025 any revised Waste Plan published in advance of the end of 2027 would supersede this document. The Aims and Objectives of the Plan remain as per the Waste Management Plan 2016.

1.4 Key Changes since 2015

1.4.1 Landfill Diversion Targets

One of the key targets in the 2015 Plan was in relation to landfill diversion. The Landfill Regulations (Northern Ireland) 2003 are amended by The Waste (Circular Economy) (Amendment) Regulations (Northern Ireland) 2020 to bring the EU Directives up to date with the 2018 amendments made as part of the Circular Economy Package (cross reference to landfill directive update), including restrictions on waste separately collected for preparing for re-use or recycling from being accepted for landfill.

The Waste (Circular Economy) (Amendment) Regulations (Northern Ireland) 2020 sets statutory landfill target of the amount of municipal waste landfilled which will be reduced to 10% or less of the total amount of municipal waste generated (by weight) by 2035.

1.4.2 Recycling Targets

Recycling targets are identified in the 2015 Plan which have now been superseded. The Waste (Circular Economy) (Amendment) Regulations (Northern Ireland) 2020 sets statutory recycling and reuse targets as follows:

- by 2025, the preparing for re-use and the recycling of municipal waste shall be increased to at least 55% by weight;
- by 2030, the preparing for re-use and the recycling of municipal waste shall be increased to at least 60% by weight; and
- by 2035, the preparing for re-use and the recycling of municipal waste shall be increased to at least 65% by weight.

2 POLICY AND LEGISLATION UPDATE

Current and future waste management activities are influenced by the legislative and policy framework in Northern Ireland. This includes European Union (EU) waste policy which aims to reduce the environmental and health impacts of waste and improve resource efficiency. The majority of waste policy and guidance is based on EU Directives which are then translated into National legislation and policy within certain timescales.

After Brexit, EU waste policy continues to apply in Northern Ireland to a significant extent. The Northern Ireland Protocol, which is part of the Brexit withdrawal agreement, establishes a unique arrangement for Northern Ireland's relationship with the European Union regarding various areas of law, including the environment.

Under the protocol, Northern Ireland remains aligned with several key aspects of EU environmental law. This alignment ensures that Northern Ireland continues to follow EU standards and regulations related to environmental protection and conservation including waste management.

The protocol also recognizes the role of the European Commission and the European Court of Justice (ECJ) in overseeing the implementation and interpretation of EU environmental law in Northern Ireland. The ECJ retains jurisdiction over matters related to EU law within the scope of the protocol, including environmental issues.

While Northern Ireland remains aligned with certain EU environmental laws, there may be some divergence over time between Northern Ireland and the rest of the United Kingdom in terms of environmental regulations and standards. The UK government has the ability to set its own environmental policies and standards for areas outside the scope of the protocol.

This Chapter provides an overview of current and anticipated waste policy and legislative measures emanating from within the European Union (EU) and the European Commission, in order to identify and understand the key issues that need to be taken into account in developing a Waste Management Plan.

The overall place and strategic influence of EU policy in the legislative and policy framework in Northern Ireland relevant to the development of the Waste Management Plan is set out in Figure 2.1 below. This will be a critical element of the revised DAERA Waste Management Strategy expected to be published in 2025.

Recycling is the collection and sorting of waste materials and reprocessing to produce material or substance whether for the original or other purposes. This usually involves the following phases: collection, sorting, reprocessing and resale.

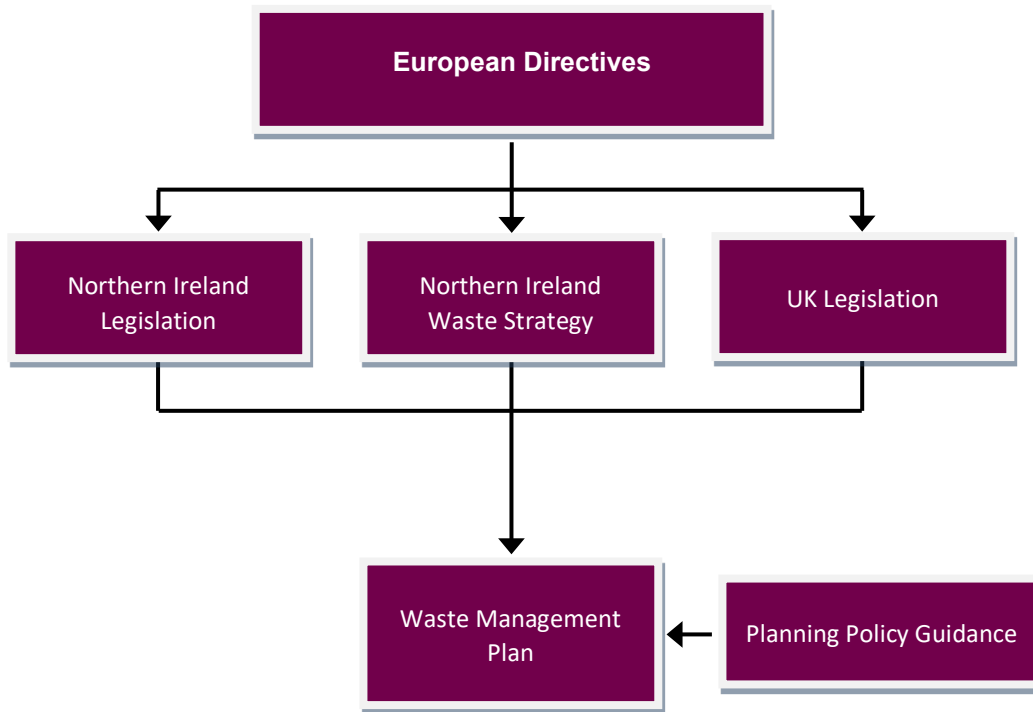
A summary of the advantages of recycling are given below:

- Environmental and other cost savings associated with production (including raw materials, energy, transport and processing) as the life of raw materials is extended and the value extracted from them is maximised;
- Reduced disposal needs and costs; and
- Consumer participation through enhanced public awareness and understanding of environmental issues

There are three systems used for the collection of household recyclable materials in the Councils:

- Kerbside Collections;
- Recycling Centres; and
- Bring Sites / Community Recycling Centres (CRCs).

Figure 2.1: Legislative and Policy Framework



This Chapter is not exhaustive and does not detail every piece of legislation or every policy measure. It does not constitute legal advice, and hence appropriate guidance therefore should be sought from a professional advisor, or regulator, in relation to any issues to do with legal compliance.

2.1 European Union Waste Policy

2.1.1 Current EU Waste Policy and Legislation

The EU gives strong direction to its member states on waste issues and much of UK and NI waste policy and guidance are based on EU legislation. EU waste policy and legislation had an initial focus in putting in place measures to manage and control waste and this led to the adoption of the Waste Framework Directive (75/442/EEC) in 1975. This, together with the Hazardous Waste Directive, which was also originally adopted in 1975, and the Waste Shipment Regulation (Regulation (EEC) 259/93) put in place the regulatory framework for waste. These pieces of legislation define waste, and other fundamental concepts including licensing, and put in place controls for handling and movement of waste, to prevent damage to the environment or human health. Key elements of the EU Waste Policy include:

- Waste Hierarchy: The EU follows a waste hierarchy, which prioritizes waste prevention as the most desirable option, followed by preparation for reuse, recycling, other recovery options (such as energy

recovery), and as a last resort, safe disposal (landfilling). Member states are required to incorporate this hierarchy into their national waste management plans.

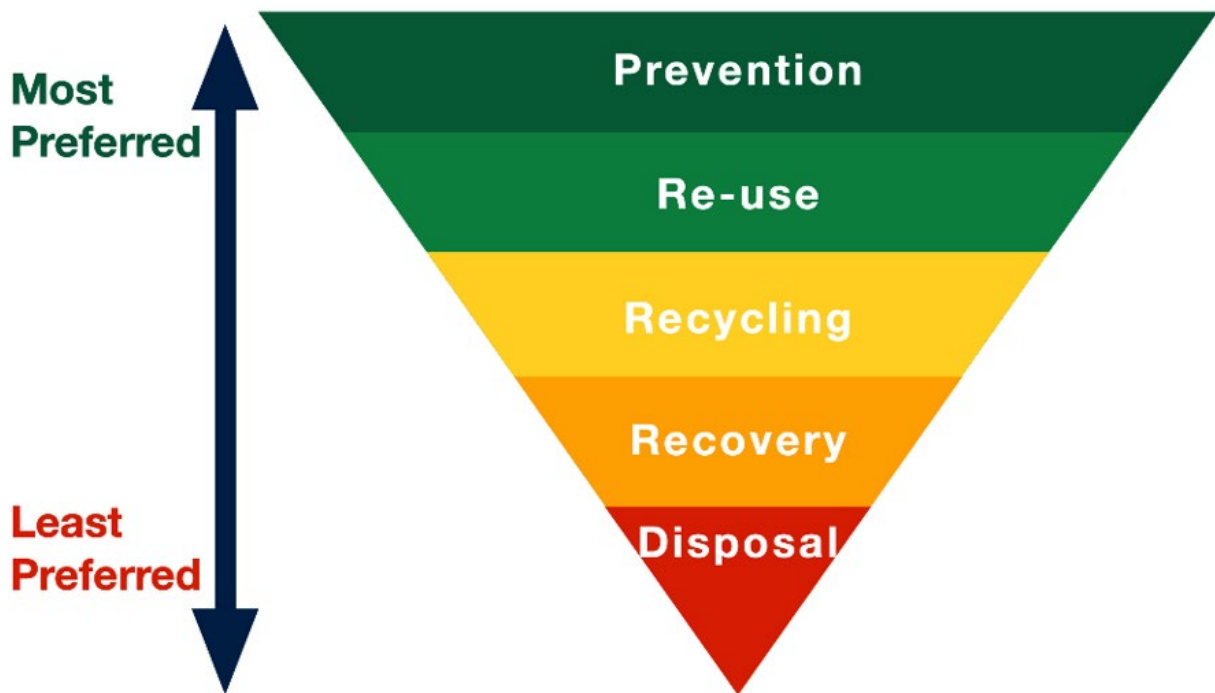
- **Waste Prevention:** The EU encourages measures to minimize waste generation and promote sustainable consumption and production patterns. It includes actions such as eco-design requirements, promoting reuse systems, fostering awareness campaigns, and implementing extended producer responsibility schemes.
- **Recycling and Recovery Targets:** The EU has set ambitious targets for recycling and the recovery of specific waste streams. For instance, there are recycling targets for packaging waste, including paper, plastics, metals, and glass. The Circular Economy Action Plan aims for 65% municipal waste recycling by 2035 and 70% packaging waste recycling by 2030.
- **Extended Producer Responsibility (EPR):** The EU promotes the principle of EPR, which holds producers responsible for the environmental impact of their products throughout their lifecycle. EPR schemes encourage producers to take responsibility for the collection, treatment, and recycling of their products when they become waste.
- **Landfill Restrictions:** The EU has imposed restrictions on the landfilling of certain waste types, such as biodegradable waste. Landfilling is considered the least desirable waste management option due to its environmental impact.
- **Hazardous Waste Management:** The EU has specific regulations for the safe management of hazardous waste, including its collection, transport, treatment, and disposal. These regulations aim to prevent harm to human health and the environment.
- **Waste Framework Directive:** The Waste Framework Directive sets out the general principles and legal framework for waste management in the EU. It defines key concepts such as waste, recovery and disposal and puts in place the essential requirements for an establishment of waste management operations to have a permit or to be registered and placed an obligation for member States to prepare waste management plans. Furthermore it also established principles such as an obligation to handle waste in a way that does not have negative impacts on the environment or human health, an encouragement to apply the waste hierarchy and, in accordance with the polluter-pays principle, a requirement that the costs of disposing of waste must be borne by the holder of waste, by previous holders or by the producers of the product from which the waste came.
- **Circular Economy Package:** The EU's Circular Economy Package, adopted in 2018, sets out a comprehensive policy framework to promote the circular economy. It includes measures to improve waste management, promote recycling and resource efficiency, reduce landfilling, and encourage eco-design and innovation.

2.1.2 Revised Waste Framework Directive (WFD)

The Waste Framework Directive (2008/98/EC) is the overarching legislative framework and is of particular significance to the development of the Plan. It includes several revisions and updates to strengthen waste management practices. This Directive, which was adopted on the 19th November 2008, sets out measures to minimise the negative effects of the generation and management of wastes on human health and the environment and aims to reduce the use of resources. This Directive also repealed directives on Waste Disposal (75/439/EEC), Hazardous Waste (91/689/EEC) and Waste Oils (2006/12/EC).

A key component of the revised WFD is the new Waste Hierarchy, the primary purpose of which is to, minimise adverse environmental effects from waste and to increase resource efficiency in waste management and policy. Article 4 of the WFD sets out the new Waste Hierarchy as a priority order for waste management, as set out in Figure 2.2 below.

Figure 2.2: Waste Management Hierarchy



The Waste Regulations (Northern Ireland) 2011 transpose for Northern Ireland the revised Waste Framework Directive. Waste prevention is set out as the most favourable option even though it is not technically a waste measure, as it occurs before a material becomes waste. However, the reduction of waste through reuse or other policy initiatives is a key objective of turning waste into a resource. Preparing for Reuse has also been included in the new Waste Hierarchy above Recycling with the aim of also improving resource efficiency.

When applying the Waste Hierarchy the WFD states that measures should be taken to encourage the options that deliver the best overall environmental outcomes. The WFD also makes a provision that specific waste streams may depart from the Waste Hierarchy where this is justified by a life cycle assessment taking into

account overall impacts (environmental, economic and social) that a product or service will have throughout its whole life and will deliver the best overall outcome.

EU waste policy aims to contribute to the circular economy by extracting high-quality resources from waste as much as possible. The European Green Deal aims to promote growth by transitioning to a modern, resource-efficient and competitive economy. As part of this transition, several EU waste laws will be reviewed.

Article 11(1) of the WFD cover the requirements to separately collect recyclable waste to ensure materials are treated to maximise their quality and environmental benefits. The Waste Regulations (Northern Ireland) 2011 transpose the requirements of the WFD and place duties on collectors of waste under part 18(1). The Regulator has referred to the Industry TEEP Guidance² as a means of undertaking the necessary assessments. The changes in materials collected under EPR will mean that TEEP assessments will need to be updated in order to be clear how collection system focussing on the original set of materials are affected.

2.1.3 Circular Economy Package 2020

The EU Circular Economy Package is a legislative initiative introduced by the European Union (EU) to promote a more sustainable and resource-efficient economy. It was adopted in 2018 and consists of a set of measures aimed at reducing waste generation, promoting recycling and reuse, and encouraging the efficient use of resources throughout the entire lifecycle of products.

The package includes a range of directives and regulations that address various aspects of the circular economy. Some key elements of the EU Circular Economy Package are:

- **Waste Framework Directive:** This directive sets out waste management principles and establishes rules for waste prevention, recycling, and recovery. It aims to increase recycling rates and reduce landfilling of waste.
- **Packaging and Packaging Waste Directive:** This directive focuses on reducing the environmental impact of packaging waste by setting targets for recycling and promoting the use of more sustainable packaging materials.
- **Landfill Directive:** The directive sets specific targets for reducing the amount of municipal waste being sent to landfill and encourages the diversion of waste towards recycling and energy recovery.
- **Waste Electrical and Electronic Equipment (WEEE) Directive:** This directive aims to improve the collection, treatment, and recycling of electronic waste, ensuring the proper disposal of hazardous substances and promoting the use of more durable and repairable products.
- **Eco-design Directive:** This directive establishes requirements for the environmental performance of products throughout their lifecycle. It promotes the design of products that are more durable, energy-efficient, and easier to recycle.

² Technically, Environmentally and Economically Practical (TEEP) offers guidelines and questions to ask when deciding whether recycling is a viable option

- **Extended Producer Responsibility (EPR):** The EU Circular Economy Package strengthens the concept of EPR, which makes manufacturers and importers responsible for the entire lifecycle of their products, including their collection, treatment, and disposal at the end of life.
- **Critical Raw Materials Initiative:** The EU aims to identify critical raw materials and develop strategies to ensure their sustainable supply, reduce dependency, and encourage recycling and recovery.

The EU Circular Economy Package seeks to transition from the traditional linear economic model of "take-make-dispose" to a more circular model, where resources are kept in use for as long as possible, waste is minimized, and the value of products and materials is maintained in the economy. It aims to foster sustainable growth, create jobs, and reduce environmental impacts across the EU member states.

There are several ways the Circular Economy contributes to achieving Net Zero emissions:

- **Reduction in Raw Material Use:** By maximizing the utility of products through design for durability, reuse, remanufacturing, and recycling, the circular economy reduces the need to extract and process raw materials. This, in turn, lowers the greenhouse gas (GHG) emissions associated with these activities.
- **Energy Efficiency and Renewable Energy:** Circular economy principles encourage the use of renewable energy in the production process, further reducing carbon footprints. Moreover, designing products for longevity and lower energy use contributes to overall energy efficiency.
- **Waste Minimization:** By rethinking waste as a resource, the circular economy aims to eliminate waste through the design of products and business models. This can significantly reduce emissions from waste management processes such as landfilling and incineration, which are significant sources of methane and CO₂, respectively.
- **Carbon Capture and Utilization:** Circular economy strategies can include the use of biological materials that capture carbon during their growth (e.g., through photosynthesis in plants). When these materials are used in construction or other long-lived products, they effectively sequester carbon. Additionally, innovations in carbon capture and utilization (CCU) can transform CO₂ from a waste product into a resource for new materials.
- **Systemic Impact:** The circular economy promotes systemic changes that can lead to a decoupling of economic growth from resource use and emissions. This systemic shift not only addresses production and consumption patterns but also encourages the development of new business models that can support sustainable practices and innovation.
- **Supply Chain and Cross-Sector Collaboration:** By fostering closer collaboration across supply chains and sectors, the circular economy can optimize resource use and efficiency across entire systems, leading to further reductions in emissions. This includes collaborative consumption models, shared logistics, and infrastructure that reduce overall environmental impacts.
- **Behavioural Change:** The circular economy also encourages shifts in consumer behaviour, such as increasing demand for products as services (e.g., leasing instead of owning) or choosing products designed for longevity and recyclability. These shifts can significantly reduce the overall demand for new materials and the associated emissions from their production.

Achieving Net Zero emissions is a complex challenge that requires multifaceted solutions. The Circular Economy offers a comprehensive framework that addresses many aspects of this challenge by reducing demand for new resources, minimizing waste, and encouraging the use of renewable energy and materials. Its implementation can significantly contribute to global efforts to mitigate climate change and achieve Net Zero emissions.

2.1.4 Emissions Trading Scheme

The Emissions Trading Scheme (ETS), also known as a cap-and-trade system, is a market-based approach to controlling pollution by providing economic incentives for achieving reductions in the emissions of pollutants. The scheme is designed to address environmental challenges, such as climate change, by setting a cap on the total amount of certain greenhouse gases that can be emitted by covered entities. The ETS is used by several countries and regions as part of their efforts to meet international and domestic climate goals. The European Union Emissions Trading System (EU ETS), established in 2005, is the largest and first major carbon market. The UK ETS came into effect in January 2021 following the exit of the UK from the European Union. In July 2023 the UK government outlined their intention to include all waste incineration and Energy from Waste (EfW) technologies with the UK from 2028. The EU have also confirmed their intention to include EfWs within the EU ETS at some stage between 2028 and 2031. While Northern Ireland remains part of the UK ETS, its unique position due to the Northern Ireland Protocol and the ongoing discussions and adjustments in the relationship between the UK and the EU may lead to future changes or considerations in how such schemes are implemented or harmonized across borders. However, any changes to this arrangement would be subject to political negotiations and agreements between the UK and the EU.

The primary goal of an ETS is to reduce greenhouse gas emissions cost-effectively by setting a cap on emissions and allowing the market to identify the most economical options for achieving those reductions. By putting a price on carbon, it also encourages investment in renewable energy, energy efficiency, and other low-carbon technologies.

The ETS has significant implications for the EfW sector. By putting a price on carbon emissions, an ETS incentivizes reductions in greenhouse gas emissions through a cap-and-trade system. Companies are allocated or must purchase emissions allowances, and they can trade these allowances on the market. This system directly impacts the EfW sector in various ways:

- **Cost Implications:** For EfW facilities, the cost of operation could increase due to the need to purchase emissions allowances. This is particularly true for plants that have high greenhouse gas emissions relative to their energy output. The additional costs might encourage facilities to invest in cleaner technologies or more efficient waste-to-energy conversion processes to reduce their carbon footprint and, consequently, the cost of buying allowances.
- **Investment in Cleaner Technologies:** The ETS incentivizes EfW plants to adopt cleaner, more efficient technologies. This could include advancements in combustion technology, carbon capture and storage (CCS), and improvements in the sorting and processing of waste to reduce the amount of non-combustible materials. Investing in these technologies can help reduce the carbon intensity of the energy produced, making EfW facilities more competitive within the ETS framework.

- **Economic Viability and Market Dynamics:** The cost of carbon credits under the ETS affects the economic viability of EfW projects. Facilities that are able to operate efficiently and with lower emissions will have an advantage, as they will need to purchase fewer allowances or may even generate surplus allowances to sell. This dynamic could lead to market consolidation, favouring operators who can achieve economies of scale and invest in advanced technologies.
- **Regulatory and Policy Influence:** The specifics of how an ETS impacts the EfW sector can depend heavily on how the scheme is designed, including how allowances are allocated, the overall cap on emissions, and whether specific provisions are made for renewable or low-carbon energy sources. Policies that recognize the energy recovery from waste as part of a circular economy or as a renewable energy source can influence the development and expansion of the EfW sector within the ETS framework.
- **Innovation and Research:** The push to reduce emissions can drive research and development in the EfW sector, encouraging innovation in areas such as gasification and pyrolysis, which can potentially offer more efficient and cleaner ways to convert waste into energy.

In summary, the implications of the Emissions Trading Scheme on Energy from Waste are multifaceted, influencing operational costs, technological development, waste management practices, market dynamics, and regulatory approaches. While it presents challenges, it also offers opportunities for innovation and for the EfW sector to contribute to the transition towards a low-carbon economy.

2.1.5 The Circularity Gap Report 2022

The Circularity Gap Report is an annual publication by Circle Economy, a social enterprise based in the Netherlands that promotes the transition to a circular economy. The report assesses the state of the global economy in terms of circularity – measuring how much of the materials we use are recycled and fed back into the economy rather than being used once and discarded.

The Circularity Gap Report 2022 by Circle Economy focuses on transitioning towards a more circular economy to address various global challenges, including waste management. While the report covers a broad range of strategies to increase global circularity, specific recommendations related to the management of waste emphasize the need to reduce waste generation, enhance recycling, and ensure the sustainable consumption of resources. Key recommendations for waste management include:

- **Prioritize Waste Prevention:** The most effective way to manage waste is to prevent it from being generated in the first place. This involves designing products and packaging that are more durable, reusable, and repairable, thus reducing the amount of waste produced.
- **Implement Circular Design:** Products should be designed with their end-of-life in mind, making them easier to disassemble, recycle, or compost. Circular design reduces waste and ensures that materials can be effectively recovered and reused.
- **Enhance Recycling Systems:** Improve recycling infrastructure and systems to increase the capacity and efficiency of recycling processes. This includes investing in advanced sorting technologies and developing markets for recycled materials.

- **Encourage Composting and Biodegradable Materials:** Promote the use of compostable materials and expand composting facilities to manage organic waste. This approach turns waste into valuable compost, contributing to soil health and reducing greenhouse gas emissions from landfill sites.
- **Promote Sustainable Consumption:** Encourage individuals and organizations to adopt more sustainable consumption patterns, such as choosing products with minimal packaging, buying second-hand, and selecting products made from recycled materials.
- **Support Innovation in Waste Management Technologies:** Foster innovation in waste management technologies that can improve the sorting, recycling, and treatment of waste. This includes developing new materials that are easier to recycle and technologies that can recover resources from waste more efficiently.
- **Foster Collaboration Across the Value Chain:** Encourage collaboration among manufacturers, waste management companies, policymakers, and consumers to develop integrated solutions for waste reduction and management. Sharing best practices and technologies can enhance overall system efficiency.

By focusing on these key areas, the Circularity Gap Report 2022 aims to highlight the critical role that effective waste management plays in moving towards a more circular economy. Reducing waste, enhancing recycling, and adopting sustainable consumption and production patterns are essential steps in closing the circularity gap and addressing the environmental challenges faced globally.

2.2 National Legislation

2.2.1 The Environment Act

The Environment Act, passed by the UK Parliament in 2021, is a comprehensive piece of legislation designed to address various environmental issues, including waste management, air quality, water, and biodiversity. The Environment Act introduces several key provisions aimed at reducing waste, improving recycling, and moving towards a more circular economy. Some of the notable aspects related to waste management in the Environment Act include:

- Extended Producer Responsibility (EPR)
- Consistency in Household and Business Recycling
- Deposit Return Schemes (DRS)
- Charging for Single-Use Items
- Waste Tracking and Electronic Waste Tracking
- Powers to Stop Export of Plastic Waste

These provisions in the Environment Act reflect the UK's commitment to tackling waste more effectively, promoting recycling, and moving towards a circular economy where materials are kept in use for as long as

possible. The specific details and implementation plans for these provisions are subject to further regulations and guidance from the government.

2.2.2 Reforms to the Packaging Waste

The Packaging Waste Recycling Note (PRN) and Packaging Waste Export Recycling Note (PERN) system was introduced in 1997 under the Producer Responsibility Obligations (Packaging Waste) Regulations as a means of evidencing compliance with recycling targets. The Department for Environment, Food and Rural Affairs (DEFRA), the Welsh Government, the Scottish Government and DAERA ran a consultation on reforms to the PRN and PERN system and operator approval from 26th March to 21st May 2022. The second UK-wide consultation was published alongside the government response to the 2021 consultation on EPR for packaging.

Producers will be required to meet their packaging recycling obligations for all household and non-household packaging by obtaining PRNs/PERNs to cover costs related to the recycling of this waste. Producers of household packaging waste will also be required to make a separate payment to local authorities, via the EPR Scheme Administrator, to cover the costs of managing the collection and sorting of this packaging.

The consultation aimed to seek views on technical and administrative amendments to the PRN/PERN system to address some of the issues including PRN/PERN price volatility, lack of transparency and potential for fraudulent issuing of PRNs/PERNs. The following proposed areas for reform were considered in the consultation:

- Reporting requirements on the sale of PRNs/PERNs;
- Reporting requirements on how the revenue from PRN/PERN sales is used;
- Timeframes for the trading of PRNs/PERNs;
- The interface with the introduction of DRS for drinks containers;
- The introduction of a 'technical competence' test for compliance scheme operators and accredited reprocessors and exporters;
- The introduction of a compliance fee for producers that fail to meet their obligations.

Proposals progressed from the consultation are intended to be introduced in legislation with the Producer Responsibility Obligations (Packaging Waste) Regulations 2007 and the Producer Responsibility Obligations (Packaging Waste) Regulations (Northern Ireland) 2007 remaining in place until revoked by the new packaging EPR Regulations.

2.2.3 Electronic Waste Tracking

The Environment Bill sets out a legal framework for environmental governance and protection post-Brexit. Among its wide-ranging provisions, it mandates electronic tracking of waste to ensure better control over waste management processes, from production through to disposal or recycling. This process involves collecting, storing, and analyzing data on waste generation, collection, transportation, treatment, and disposal.

Key Components of Electronic Waste Tracking Systems include:

- **Identification and Classification:** Each waste item or batch is identified and classified according to type, source, and hazard level. This can involve barcodes, QR codes, RFID tags, or other identification technologies.
- **Data Capture and Entry:** Information about the waste, including its quantity, type, origin, and destination, is captured at each stage of its lifecycle. This can be done manually through apps or automatically via sensors and scanners.
- **Database and Management Software:** The collected data is stored in a centralized database and managed through specialized software. This software allows for tracking the waste's journey, analyzing data, generating reports, and ensuring compliance with regulations.
- **Stakeholder Access and Communication:** Different stakeholders, including waste producers, handlers, transporters, and treatment facilities, as well as regulatory authorities, have access to relevant portions of the data. This facilitates communication, coordination, and compliance monitoring.

Electronic waste tracking presents a range of implications for councils, with both opportunities and challenges. Digital waste tracking systems can play a crucial role in improving the transparency, efficiency, and accountability of waste management processes. Some of the key implications for councils:

1. Improved Waste Management and Reduction

Enhanced Tracking: Digital systems allow for the real-time tracking of waste, making it easier for councils to monitor the flow of waste from generation to disposal or recycling.

Data-Driven Decisions: Access to detailed data can help councils make informed decisions about waste management policies, recycling programs, and resource allocation.

2. Regulatory Compliance and Reporting

Ease of Compliance: Digital tracking simplifies the process of complying with national and regional regulations related to waste management, as it provides accurate and easily accessible records.

Streamlined Reporting: It can automate the generation of reports required by regulatory bodies, saving time and reducing the risk of errors.

3. Increased Transparency and Accountability

Stakeholder Engagement: By making waste data available, councils can increase transparency with the public and other stakeholders, potentially leading to greater trust and cooperation.

Accountability: Digital systems can help pinpoint where waste management processes might be failing, holding waste producers, handlers, and processors accountable for their actions.

4. Cost Implications

Initial Investment: Implementing a digital waste tracking system requires an initial investment in technology and training, which can be significant.

Operational Savings: Over time, the efficiencies gained from digital tracking can lead to cost savings in waste collection, transportation, and processing.

5. Data Security and Privacy Concerns

Protection of Information: Handling sensitive information about businesses and individuals means councils must ensure their digital tracking systems are secure against breaches.

Compliance with Data Protection Laws: Councils must navigate data protection regulations, ensuring that waste tracking practices comply with laws like the GDPR in the European Union.

6. Enhancing Circular Economy Initiatives

Resource Recovery: By providing detailed information on waste types and quantities, digital tracking can facilitate the recovery and reuse of materials, promoting circular economy efforts.

Partnerships: Councils can use data from waste tracking to forge partnerships with private sector companies for innovative waste reduction and recycling initiatives.

7. Technical and Operational Challenges

Interoperability: Ensuring that digital waste tracking systems can communicate with other municipal and national systems can be challenging.

User Adoption: Getting all stakeholders on board, from waste producers to disposal facilities, requires effort in training and change management.

There are upfront costs and challenges to address for councils in the implementation but there are long-term benefits of improved waste management, regulatory compliance, and support for circular economy principles can significantly outweigh these initial hurdles. This is intended to replace the current WasteDataFlow web based system used by Local Authorities in the UK to monitor municipal waste collection and management.

2.2.4 Recycling Tracking Survey Report 2021

The Recycling Tracker is the largest and longest running survey on recycling attitudes, values and behaviours. The Spring 2021 survey had a detailed focus on contamination, with previous waves of the tracker pointing to an increasing trend.

The March 2021 wave was undertaken with a total of 4,725 UK adults from 6-12 March 2021. Overall, the survey demonstrates the following:

The Tracker results demonstrate four key findings about recycling behaviour:

1. Overall levels of recycling are high and an established norm: Almost nine in ten (88%) UK households say they 'regularly' recycle.
2. Just over half of UK households (52%) say they have recycled more in the past year: either an item they were not previously recycling or one they were already recycling but now do so more often.

3. There remain opportunities to increase recycling capture: over half (55%) of UK households put one or more items in the general rubbish that is collected for recycling kerbside (1.6 items on average).
4. There is also a key opportunity to reduce contamination: the majority (85%) of UK households put one or more items in the recycling that is not accepted locally (4.4 items on average).
5. When missed capture and contamination are combined close to one in four (24%) UK households classify as the highest performing recyclers (because they dispose of 0-2 items incorrectly). In contrast, one in five (20%) classify as lower performing recyclers (because they dispose of 10+ items incorrectly).

2.2.5 Per- and Polyfluoroalkyl Substances (PFAS)

Per- and Polyfluoroalkyl Substances (PFAS) is having a significant impact on the UK waste industry due to the persistence, widespread use, and potential environmental and health impacts of these chemicals. PFAS are a group of man-made chemicals that have been used in a variety of industrial applications and consumer products for decades. Their resistance to water, oil, and temperature has made them popular in many sectors, including in the production of non-stick cookware, water-repellent fabrics, firefighting foams, and in the manufacturing of some food packaging materials.

The durability and persistence of PFAS present several challenges for the waste sector:

- **Landfill Contamination:** PFAS can leach from waste materials and products disposed of in landfills, potentially contaminating the leachate (the liquid that drains or 'leaches' from a landfill). The leachate can eventually make its way into groundwater or surface water, posing risks to aquatic environments and potentially affecting drinking water sources.
- **Wastewater Treatment:** PFAS are resistant to conventional wastewater treatment processes and can accumulate in sewage sludge. This is problematic because sewage sludge is often repurposed as fertilizer in agriculture, which can lead to the contamination of soil and water. Moreover, the presence of PFAS in wastewater systems demands additional treatment processes, which can be costly and complex.
- **Recycling Challenges:** The recycling of products containing PFAS is complicated due to the chemical's persistence and potential to contaminate recycling streams. Specialized processes are required to safely recycle or dispose of PFAS-containing materials, which can increase the costs and complexity of recycling programs.
- **Regulatory and Compliance Issues:** As awareness of the environmental and health risks associated with PFAS grows, regulatory bodies in the UK and around the world are implementing stricter regulations on the use, disposal, and clean-up of these substances. Waste management and recycling companies need to stay informed about these regulations to ensure compliance and to adapt their operations accordingly. This can include investing in new technologies or processes to handle PFAS waste safely.

- **Public Health and Environmental Protection:** Given the potential for PFAS to accumulate in the environment and in human bodies, where they have been linked to adverse health effects, there is a growing concern over how waste management practices contribute to the overall exposure of populations to these chemicals. Ensuring that PFAS are managed and disposed of in a way that minimizes their release into the environment is crucial for protecting public health and ecosystems.

The waste industry is faced with the challenge of developing and implementing strategies for the safe handling, treatment, and disposal of PFAS-containing materials. This includes investing in research and development of new technologies and methodologies that can effectively break down PFAS compounds or otherwise mitigate their environmental impact.

2.2.6 Persistent Organic Pollutants

Some chemicals within PFAS are considered Persistent Organic Pollutants (POPs). These are a group of organic compounds that are resistant to environmental degradation through chemical, biological, and photolytic processes. Because of their persistence, POPs bioaccumulate with potential adverse impacts on human health and the environment. POPs accumulate in the fatty tissue of living organisms including humans and are found at higher concentrations at higher levels in the food chain.

The Stockholm Convention on Persistent Organic Pollutants, which came into force in 2004, is a global treaty to protect human health and the environment from POPs. It aims to eliminate or restrict the production and use of these chemicals. The Convention lists specific substances to be banned, phased out, or restricted, and requires parties to take measures to eliminate or reduce the release of POPs into the environment. The UK is a party to the Stockholm Convention a global treaty to eliminate or restrict the use of POPs. Since 1st January 2021, Northern Ireland has continued to implement the EU POPs Regulation as a result of the NI Protocol.

In Northern Ireland, DAERA is the Competent Authority with responsibility for enforcing the EU POPs Regulation. The EU POPs Regulation aims to protect human health and the environment with specific control measures that:

- prohibit or severely restrict the production, placing on the market and use of POPs;
- minimise the environmental release of POPs that are formed as industrial by-products;
- make sure that stockpiles of restricted POPs are safely managed; and
- ensure the environmentally sound disposal of waste consisting of, or contaminated by POPs.

Waste containing POPs must be traced and treated specially to destroy all POPs content if the POP level of the waste is above a threshold value. Northern Ireland faces a particular problem in the management of POPs due to the lack of suitable infrastructure. Council operations are not designed to cope with the necessary level of complexity, and household waste and recycling facilities for example could need significant upgrades. In addition incineration is widely considered the most effective method for the destruction of waste containing POPs but a lack of capacity in Northern Ireland means this waste will need to be exported to GB or the EU for treatment.

2.2.7 The Resources and Waste Provisional Common Framework

The Resources and Waste Provisional Common Framework is part of the UK's approach to manage certain policy areas that were previously governed at the EU level, now that the UK has left the EU. Common Frameworks are designed to enable the UK and devolved governments (Scotland, Wales, and Northern Ireland) to work together in these areas, ensuring consistency across the UK while respecting devolution. They cover topics where the need for UK-wide frameworks is recognized to facilitate the functioning of the UK internal market, comply with international obligations, and manage common resources.

The specific details of the Resources and Waste Provisional Common Framework, including how it addresses Northern Ireland, would focus on the management of resources and waste in a way that acknowledges the unique position of Northern Ireland post-Brexit. Given Northern Ireland's continued alignment with certain EU rules under the Northern Ireland Protocol, the Framework would need to address how waste and resource management policies can be implemented across the UK in a coherent manner, while still adhering to the EU regulations that apply to Northern Ireland.

2.3 Northern Ireland Legislation and Policy

2.3.1 Draft Environment Strategy for Northern Ireland

The Environment Strategy³ is intended to be an overarching document setting out Northern Ireland's environmental priorities for the coming decades and will form part of the Green Growth agenda (the Green Growth Strategy will provide more detail on actions in respect of climate change & greenhouse gas emissions).

The Environment Strategy will form the basis for a coherent and effective set of interventions that can deliver real improvements in the quality of the environment and thereby improve the health and well-being of all who live and work here; elevate Northern Ireland to an environmental leader; create opportunities to develop our economy; and enable us to play our part in protecting the global environment for decades to come.

The document was published in November 2021 and the consultation period ended in January 2022. It was approved by the Minister in March 2022 and is still awaiting finalisation by the Northern Ireland Executive. Strategic Environmental Outcome 5 of the draft document focuses on Zero Waste and highly developed circular economy. It is presented under 3 sections outlined below:

2.3.1.1 Circular Economy

In relation to the Circular Economy key actions and targets were identified as:

- Publish NI Circularity Gap Report by 2021
- Publish Circular Economy Strategic Framework by 2022

³ It should be noted that at the time of writing the Office for Environmental Protection has been consideration action against DAERA for failure to produce an Environmental Improvement Plan. This may be resolved with the re-establishment of the Assembly and emerging proposals to advance environmental protection in Northern Ireland (see <https://www.endsreport.com/article/1861595/new-ni-environment-minister-backs-creation-new-independent-environmental-protection-agency>)

- Appoint members to a NI Circular Economy Coalition representing a diverse range of industries, sectors and interest
- Work with the following enablers to accelerate the transition to a Circular Economy: digital, education, media, central and local government and procurement sectors
- NI Civil Service policy review to identify and embed circular practices in current and planned policy.

2.3.1.2 Waste Management

In relation to Waste Management key actions and targets were identified as:

- Publish new Waste Management Strategy by 2023⁴
- Introduce new UK wide Extended Producer Responsibility Scheme for packaging in 2023⁵
- Bring forward all actions set out in the Waste Prevention Plan 2019
- By 2035, send no more than 10% of waste to landfill
- Legislation to reduce the consumption of single use plastic items (SUP)

2.3.1.3 Illegal Waste Disposal

Sections 4 and 5 of the Waste & Contaminated Land Amendment Act (NI) 2011, once commenced, will provide analogous powers to both DAERA and district councils in addressing illegal waste disposal including fly-tipping and key actions and targets were identified as:

- Commence outstanding sections of 2011 Act
- Secure agreement to the protocol of all 11 councils
- DAERA and councils to review protocol annually
- Develop process for improved data recording
- Scoping of a fly-tipping app to improve data recording
- Consistent approach to data collection across NI regarding Fly-tipping and illegal waste disposal

2.3.2 Future Recycling and Separate Collection of Waste of a Household Nature in Northern Ireland

The document sets out the current position of recycling in Northern Ireland, and the current and new regulatory, climate change and market drivers that will influence policy in the future. The consultation sought views on a range of proposals, which will help shape the landscape of waste management in Northern Ireland. Its purpose is improving the quality and quantity of household and non-household recycle in Northern Ireland given that

⁴ Publication of the Waste Management Strategy now expected in 2025.

⁵ Delayed to 2025 by the UK Government

recent surveys which indicate 30% (approx.) food waste remains in the LACMW residual waste, how to improve reductions in food waste, cut landfill rates and how to get businesses on board. It outlines a series of proposals on what our recycling environment should look like in the future, and makes suggestions on possible ways to improve the quality and quantity of municipal waste recycled in Northern Ireland, to achieve better value in materials markets and to supply more local re-processors.

At the moment, very little Non-Household Municipal waste is segregated for recycling. The report recognises that the implementation of dry recyclables separated from food waste would improve quality. Ideally, the Department would want all eligible businesses and other organisations to also collect glass and food waste separately. To make these changes it would be necessary to amend legislation to require businesses and other eligible organisations in this sector to present their waste separately for collection. It might be appropriate to exempt some firms from provisions, similar to current exemptions for food waste. This might be most appropriate for micro firms where the costs of compliance might be higher.

The Department's intention would be to legislate to ensure materials are segregated from residual waste for collection. Detailed requirements on arrangements for segregation of dry materials, glass and food waste would be set out in guidance following a review of the current advice that sets out where it is technically, economically and environmentally practicable (TEEP). The updated NI guidance would cover best practice service delivery and options to assist businesses to comply with requirements. Similar to household collections a core set of recyclable materials would be proposed, which allows for differences in the waste material generated by different establishments and the range of materials can be expanded over time. The outcome of this has the potential to have a significant impact on both logistical and finances of delivering waste collections in Northern Ireland.

2.3.3 The Climate Change Act (Northern Ireland) 2022

The Climate Change Act (Northern Ireland) 2022 is a significant piece of legislation aimed at addressing climate change within Northern Ireland. The Act sets a target of an at least 100% reduction in net zero greenhouse gas (GHG) emissions by 2050 (i.e., net zero emissions by 2050) for Northern Ireland compared to baseline, along with interim targets including an at least 48% reduction in net emissions by 2030. DAERA must also, by June 2024, review and potentially set updated 2030 and 2040 interim emissions reduction targets to ensure that they are in line with the 2050 net zero target.

The Act also sets other sectoral targets including 2030 targets at least 80% of electricity consumption from renewable sources (DfE) and 70% of waste is recycled (DAERA) as well as a target for a minimum spend of 10% of overall transport budgets on active travel (DfI).

There is a legal requirement on all Northern Ireland departments to exercise their functions, as far as is possible to do so, in a manner consistent with the achievement of the targets of the Act and carbon budgets set under it.

Section 23 of the Act requires DAERA to make regulations that set carbon budgets. A carbon budget is the maximum total amount of emissions permitted for a budgetary period. The first budgetary period is 2023-2027 and every five years thereafter. The first three carbon budgets for Northern Ireland (2023-2027, 2028-2032

and 2033-2037) must be set by the end of December 2023 and each subsequent budget must be set a minimum of 12 years in advance of the budgetary period commencing. Carbon budgets must be set at a level that is consistent with meeting the 2030, 2040 and 2050 emissions reduction targets.

When setting carbon budgets, the Act requires that a number of factors are taken into account and also sets out relevant requirements around consultation, including the need to carry out a 16-week public consultation on proposed carbon budgets.

In addition, the Act requires that the Department seeks the advice of the UK Climate Change Committee (CCC) on the level of carbon budgets and the setting of the 2030 and 2040 emissions reductions targets.

2.3.4 Extended Producer Responsibility for Packaging

DAERA has ambitious goals to protect the climate, drive green growth and drive down unnecessary waste. The plans for Extended Producer Responsibility (EPR) play a key part in delivering those goals. The reforms will implement EPR for packaging from 2024.

EPR is a policy approach which places the financial cost of managing the disposal of products once they reach end of life on producers. EPR incentivises producers to make more sustainable decisions at product design stage including decisions to make it easier for products to be reused or recycled at their end of life once those products are designated as no longer useful by consumers. The full cost of dealing with packaging waste from households will move away from local taxpayers and councils to the packaging producers giving producers responsibility for the costs of their packaging throughout its life cycle. This is in line with the 'Polluter Pays principle' and 'Extended Producer Responsibility' as set out in the Waste Framework Directive (2008/98/EC as amended) and the Environment Act 2021. The scheme aims to encourage producers to reduce their use of packaging and use packaging which is easier to recycle.

Consultations on EPR were undertaken in 2019 and 2021 and responses were published by DAERA in March 2022. Extensive stakeholder engagement on the implementation design is ongoing. EPR for packaging will be managed by a Scheme Administrator who will calculate council payment and invoice producer fees.

Implementation of the reform to the UK Packaging regime will be undertaken via legislation comprising a new UK-wide Statutory instrument which is expected to come into force in 2025 and will revoke the Packaging Waste Regulations (Northern Ireland) 2007. A new data reporting statutory rule (The Packaging Waste (Data Reporting) Regulations) will require producers to collate packaging data. Scheme Administrator was to be appointed by the end of 2023 and the Statutory Instrument to implement packaging EPR were to come into force from January 2024 replacing the Data Reporting Regulations. These dates have slipped from the original planned programme. The Scheme Administrator will be responsible for determining how fees and modulating these in line with Regulations. New legislation on Material Facility Regulations in Northern Ireland will be introduced which will include sampling and compositional requirements under EPR in line with Great Britain (GB). This is due to be implemented in England and Wales in October 2024. The regulations in Northern Ireland for data reporting and material facilities will mirror regulations in the GB providing parity across the UK.

Mandatory takeback requirement of fibre-based composite cups will be introduced from 2025. From March 2026, all packaging types except plastic films and flexibles will be required to be labelled as 'recycle' or 'do not

recycle'. Targets for fibre-based composite packaging will also be introduced in 2026. From March 2027, plastic films and flexibles will be required to be labelled as 'recycle' or 'do not recycle' and plastic films are to be collected from the kerbside alongside core packaging materials.

A total of £37 Million per year funding may be available to Northern Ireland Councils, the distribution of which will be overseen by the Scheme Administrator who will assess councils' operations for effectiveness and efficiency.

2.3.5 Deposit Return Scheme (DRS)

A Deposit Return Scheme (DRS) is being introduced as a joint policy program across England, Wales and Northern Ireland. DRS is being introduced in Northern Ireland by DAERA and is due to go live on 1st October 2027. Through a small refundable deposit placed on single-use drinks containers, the DRS will incentivise people to recycle their drinks bottles and cans to redeem their deposits. Retailers selling in scope containers will be obligated to host a return point. Council and waste operators can participate in DRS by separating out acceptable containers that were uplifted in kerbside collections and redeeming the deposit on the item. The aim of DRS is to meet higher recycling targets and obtain segregated material of high quality to be recycled into new products and reduce the use of virgin materials providing a more circular economy.

Consultations on EPR were undertaken in 2019 and 2021. Regulations will be introduced in Northern Ireland and England in a joint Statutory Instrument. Materials in the DRS scope include PET plastic bottles, steel and aluminium cans from 50 millilitres to 3 litres. Glass containers are excluded from FRS in Northern Ireland and England, but this will be kept under review. Glass drink bottles will be obligated under EPR for packaging. Refill containers, HDPE plastic and fibre-based composite packaging will be excluded from DRS but will be obligated under EPR for packaging.

The next phase will be to work through development of the legislation for delivering by the end of 2023, taking necessary steps to ensure it will work in practice, and appointment of the Deposit Management Organisation (DMO) in Spring 2024. The DMO will be an independent, not for profit organisation to run the DRS.

An exemption service to operating a return point will be administered by the Deposit Management Organisation (DMO) to support retailers seeking an exemption where it may not be appropriate to receive returned containers. Criteria for an exemption includes breach of health and safety or close proximity to another return point.

A key benefit of the DRS is increasing recycling rates. Ambitious collection targets of 70% in year 1, 80% in year 2 and 90% in year 3 will be placed. The reporting period will be based on a calendar year and monetary penalties will be imposed on the DMO by regulators where the DMO fails to meet the collection targets. The DMO will undertake initial monitoring and compliance to ensure businesses are complying with the regulations and can escalate breaches to the regulator, NIEA.

While the scheme is targeting 90% of DRS containers placed on the market from year 3, Local Authorities will continue to manage many of those containers not returned. It is currently envisaged that Local Authorities and/or waste operators can separate out in-scope drinks containers found in their waste streams and then return these containers into the scheme, providing they meet the quality required for return, to receive the

deposit amount, which acts as a financial incentive. Local Authorities will be required to liaise with the DMO to determine how funds will be allocated to Councils for returned and unredeemed deposits.

It is also noted, given the proximity to the Irish border of Fermanagh and Omagh District Council, a comparable scheme was introduced in the Republic of Ireland on 1st February 2024.

2.3.6 Consultation on Waste Electrical and Electronic Equipment

In 2023, DEFRA launched a consultation on reforming the producer responsibility system for Waste Electrical and Electronic Equipment (WEEE). The consultation document sets out detailed proposals for reforms relating to the provision of collection infrastructure for household WEEE financed by producers of electrical and electronic equipment. It sets out detailed proposals for reforms to the take-back obligations that currently apply to distributors, i.e. retailers and online sellers. Key elements of the proposal include:

- The introduction of a UK-wide household waste collection system for both small and bulky items. That will be largely financed by the importers and manufacturers of the equipment purchased by consumers. However, where a replacement large appliance, such as a fridge, is delivered to a domestic premise, the seller should have an obligation to take away the old appliance, if requested to do so, at no additional charge. It is recognised that a home collection service may not suit every circumstance.
- Strengthen the existing take-back obligations placed on large retailers to enable easy drop off with them of unwanted items. A similar obligation would apply to online sellers.
- Placing new obligations on Online Market Places.
- Requirement for Producers of vapes to properly finance recycling costs when they become waste.

The Consultation closed in March 2024.

2.3.7 The Mills Report

The review of waste disposal at the Mobuoy site in Northern Ireland and the subsequent lessons learned for the future regulation of the waste industry are outlined in a report known as the Mills Report, authored by Chris Mills, a former director of the Environment Agency in Wales. The Mobuoy report specifically addresses the discovery of one of the largest illegal waste disposal sites in Europe, located near Derry/Londonderry, Northern Ireland.

The illegal waste activities at Mobuoy were uncovered in 2013, revealing significant environmental violations, including the unauthorized disposal of waste.

Key findings and lessons from the Mills Report on the Mobuoy case include:

- **Regulatory Oversight:** The report highlighted failures in regulatory oversight and enforcement that allowed the illegal waste activities at Mobuoy to continue unchecked. It called for stronger and more effective regulatory mechanisms.

- **Environmental Governance:** The need for improved environmental governance was identified, with recommendations for clearer roles and responsibilities among the various bodies involved in environmental protection and waste management.
- **Enforcement and Penalties:** The report recommended the strengthening of enforcement actions and the application of more substantial penalties for environmental offenses to serve as a deterrent against illegal waste activities.
- **Data and Information Sharing:** It was found that better data and information sharing between regulatory bodies could improve the monitoring and tracking of waste, helping to prevent illegal disposal.
- **Public Awareness and Engagement:** Increasing public awareness and engagement regarding waste management and recycling was seen as essential for fostering a culture of environmental responsibility.
- **Policy and Legislation:** The report suggested that Northern Ireland's policy and legislative framework for waste management needed comprehensive review and updating to address current challenges and future needs effectively.

It was reported in February 2024 that the total cost of the remediation of the Mobuoy site was between £17 Million and £700 Million⁶.

2.4 Strategic Review of NI Council Waste Management Arrangements

In 2021, SOLACE commissioned SIB to complete a strategic review of NI council waste management arrangements. A draft report was considered by all 11 NI councils in late 2022 and SIB progressed further scoping work in 2023 based on feedback received.

⁶ [Mobuoy dump: Cost to fix damage could be '£700m' - BBC News](#)

3 WASTE ARISING UPDATE

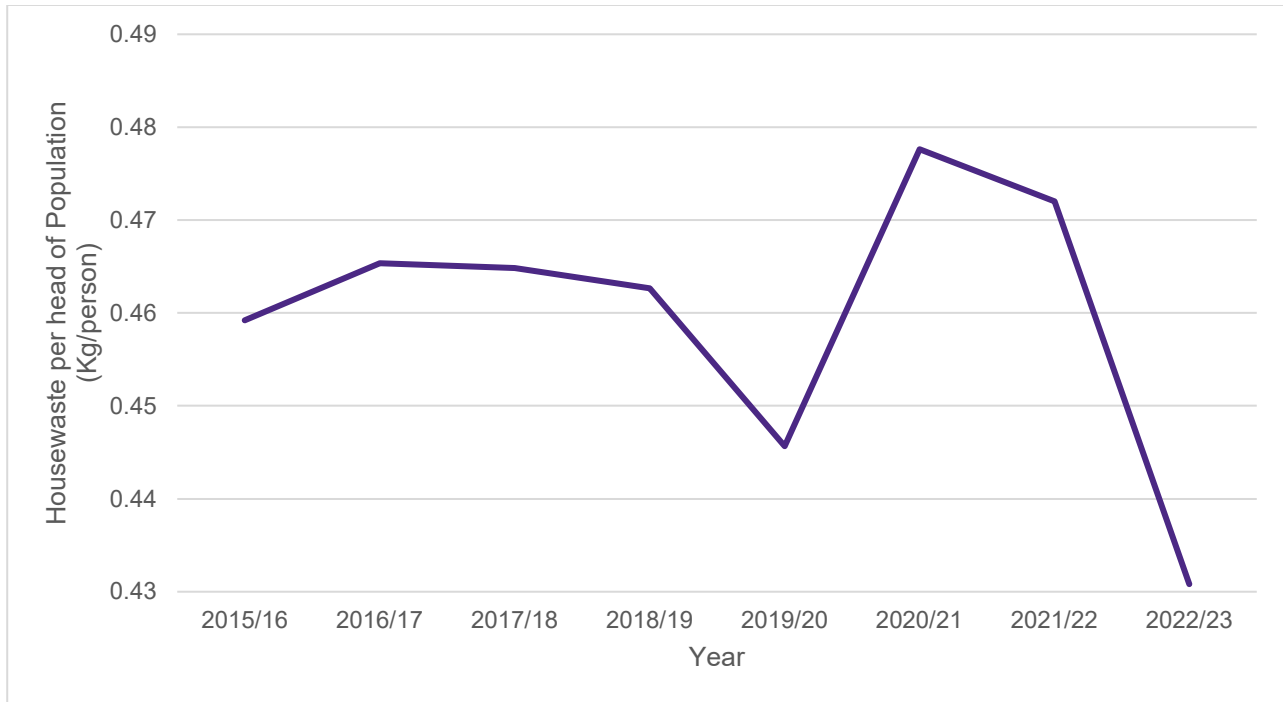
Key definitions of different waste streams included in this section of the Plan are included below.

- Municipal Waste – is defined in The Waste (Circular Economy) (Amendment) Regulations (Northern Ireland) 2020 as:
 - (a) mixed waste and separately collected waste from households, including paper and cardboard, glass, metals, plastic, bio-waste, wood, textiles, packaging, waste electrical and electronic equipment, waste batteries and accumulators, and bulky waste, including mattresses and furniture; and
 - (b) mixed waste and separately collected waste from other sources, where such waste is similar in nature and composition to waste from households,But does not include waste from production, agriculture, forestry, fishing, septic tanks and sewage network and treatment, including sewage sludge, end-of-life vehicles or waste generated by construction and demolition activities
- Local Authority Collected Municipal Waste (LACMW) – is defined in the Waste and Emissions Trading Act 2003 (Amendment) Regulations 2011, and means waste that is collected by, or on behalf of, a District Council. These wastes can be collected either directly at the household or premises by the council or its agents or through Recycling Centres and bring banks.
- Household Waste – is defined in the Waste and Contaminated Land (NI) Order 1997 and Schedule 1 to the Controlled Waste Regulations (NI) 2002 (as amended) and means a domestic property or other specified premises.
- Non-household municipal waste is defined in the Future Recycling and Separate Collection of Waste of a Household Nature in NI 2020 - Discussion Document as waste collected from sectors including businesses, public bodies (schools, universities, hospitals and local national government buildings) and other bodies such as charities or not for profit organisations.
- Biodegradable Local Authority Collected Municipal Waste is defined in the Waste and Emissions Trading Act 2003 (Amendment) Regulations 2011 as biodegradable municipal waste that is collected under arrangements made by a waste collection authority or a waste disposal authority.

Significant progress has been made in recent years in managing the municipal wastes that we as a society produce. Recycling rates for LACMW in the 3 Councils has risen to 52.4% in 2022/23. In recent years, Northern Ireland has seen the recycling rate plateau and there needs to be a renewed focus to reach these higher recycling targets. However, waste to landfill has fallen significantly but the quantity of waste being exported for thermal treatment has increased dramatically.

The most recently reported data indicates a drop in Household waste per head of population in the Joint Councils as illustrated in the graph below. A spike in household waste coincided with the national lockdowns associated with the Covid Pandemic but this has now returned to a lower household waste per head than was the case pre-pandemic.

Figure 3.1: Household Waste per head of population in the Joint Councils



The step change in recycling since the early 2000’s has been as a result of increased range of services and facilities for recycling and composting, supported by the commitment of the residents within the Region. That was the primary objective of the Waste Management Plan 2006 to 2020. However, challenges still lie ahead, not least of which is how to sustainably manage residual waste.

The EU Circular Economy Package (see Section 2.1.3) aims to stimulate Europe’s transition towards a circular economy which will boost global competitiveness, foster sustainable economic growth and generate new jobs. In terms of recycling the key targets for municipal waste by 2025, the preparing for re-use and the recycling of municipal waste shall be increased to a minimum of 55 %, 60% and 65% by weight by 2025, 2030 and 2035 respectively.

The WRAP Report published in June 2020 entitled Municipal Recycling potential in Northern Ireland summarises the research undertaken to estimate the potential to achieve a Municipal recycling rate of 65%. The key finding of this is a suggested balance of ‘approximately 58% recycling from Local Authority collections and 73% from non-household sources as an optimum means of meeting the overall rate of 65%’.

Furthermore the EU Circular Economy Package aims to reduce the landfilling of municipal waste to a maximum of 10% of the total amount of waste generated by 2035. This means that member states are expected to prioritize other waste management options, such as recycling, reuse, and energy recovery, in order to achieve this target.

Education and Awareness has been a key component of the Waste Management Plan, with a strong focus in communicating with stakeholders in all areas, including schools, to change attitudes and behaviour. Further details on Education and Awareness in the Councils is provided in Chapter 6.

This Chapter therefore reviews the measures set out in the Waste Management Plan 2006 to 2020 for the future management of municipal wastes within the Councils, to ensure that councils fulfil their statutory and

policy obligations, All details in relation to waste education and awareness initiatives can be found in Chapter 6 of this Addendum.

3.1 Waste Arisings

Table 3.1 and 3.2 outlines the Local Authority Collected Municipal Waste and Household Waste for the Joint Councils and Northern Ireland as a whole. The figures have been extracted from the verified NIEA 2022/23 annual LACMW Management Statistics Report.

Table 3.1: Summary of LACMW 2022/23

Council Area	Total LACMW Arising	Recycling & Composting	Landfilled	Energy Recovery			
Northern Ireland	971,936	480,204	49.4%	225,000	23.1%	247,017	25.4%
Joint Councils	237,329	124,379	52.4%	31,728	13.4%	76,659	32.3%
Armagh, Banbridge & Craigavon	103,379	55,297	53.5%	7,228	7.0%	37,568	36.3%
Fermanagh & Omagh	55,362	24,894	45.0%	21,810	39.4%	8,017	14.5%
Mid Ulster	78,589	44,189	56.2%	2,690	3.4%	31,075	39.5%

Table 3.2: Summary of Household Waste 2022/23

Council Area	Total Household Waste Arising	Recycling & Composting	Landfilled		
Northern Ireland	846,882	429,018	50.6%	224,572	26.5%
Joint Councils	210,353	113,624	54.0%	26,314	12.5%
Armagh, Banbridge & Craigavon	92,478	50,111	54.2%	6,326	6.8%
Fermanagh & Omagh	48,385	22,961	47.75	17,741	36.7%
Mid Ulster	69,489	40,552	58.3%	2,247	3.2%

3.2 LACMW Growth Rates

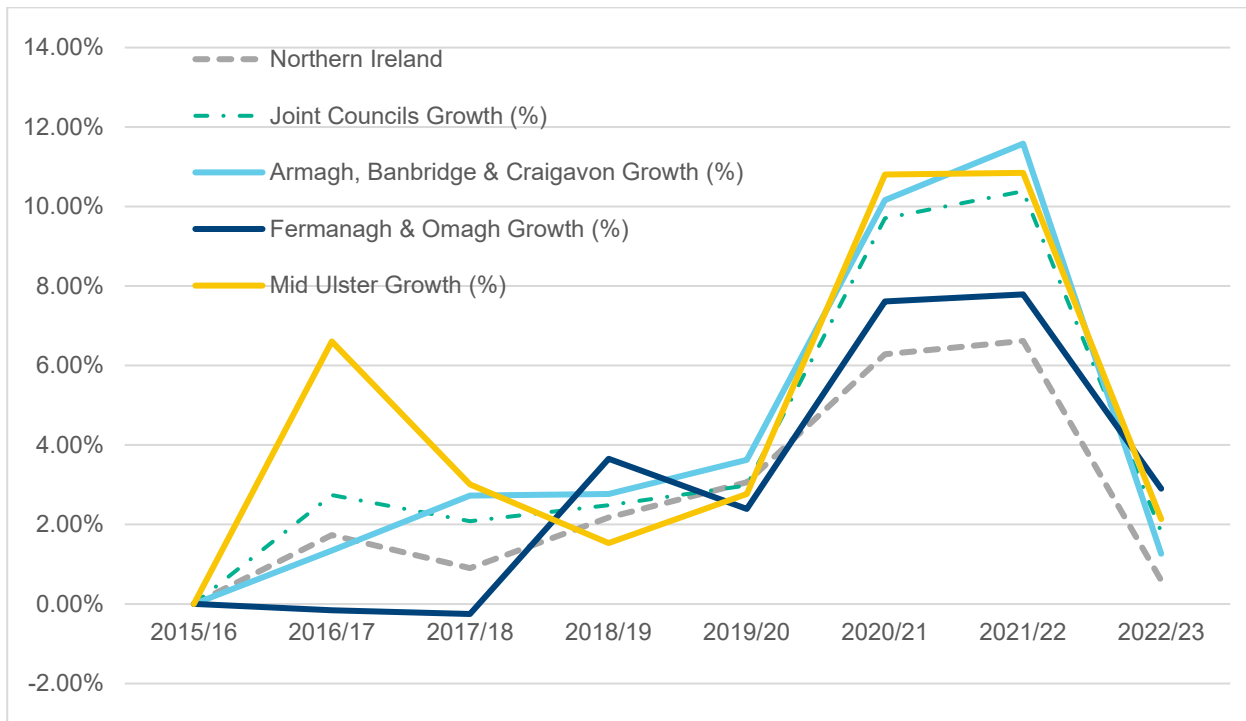
Table 3.3 provides a summary of the LACMW tonnages since 2016 and the associated growth rates.

Table 3.3: Total LACMW and Growth Rates

Council Area	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Northern Ireland	969,157	985,994	977,817	990,233	998,985	1,031,169	1,034,637	971,936
Northern Ireland Growth (%)		1.7%	-0.8%	1.3%	0.9%	3.2%	0.3%	-6.1%
Joint Councils Growth (%)		2.7%	-0.7%	0.4%	0.5%	6.7%	0.7%	-8.6%
Armagh, Banbridge & Craigavon (%)		1.3%	1.4%	0.0%	0.9%	6.5%	1.4%	-10.4% ⁷
Fermanagh & Omagh (%)		-0.2%	-0.1%	3.9%	-1.3%	5.2%	0.2%	-4.9%
Mid Ulster (%)		6.6%	-3.6%	-1.5%	1.2%	8.0%	0.0%	-8.7%

Figure 3.1 shows the LACMW cumulative growth since 2015/16. The four lines illustrate the cumulative LACMW growth for Northern Ireland, the Joint Councils and each of the Councils individually. The grey dashed line represents Northern Ireland. Northern Ireland has shown an average annual growth rate of 0.08% per year since 2015/16 with the Joint Councils showing an average growth rate of 0.18% in the same period.

Figure 3.2: LACMW Cumulative Growth



⁷ Impacted by extended period of industrial action (8 weeks) in August, September and October 2022

3.3 Waste Composition

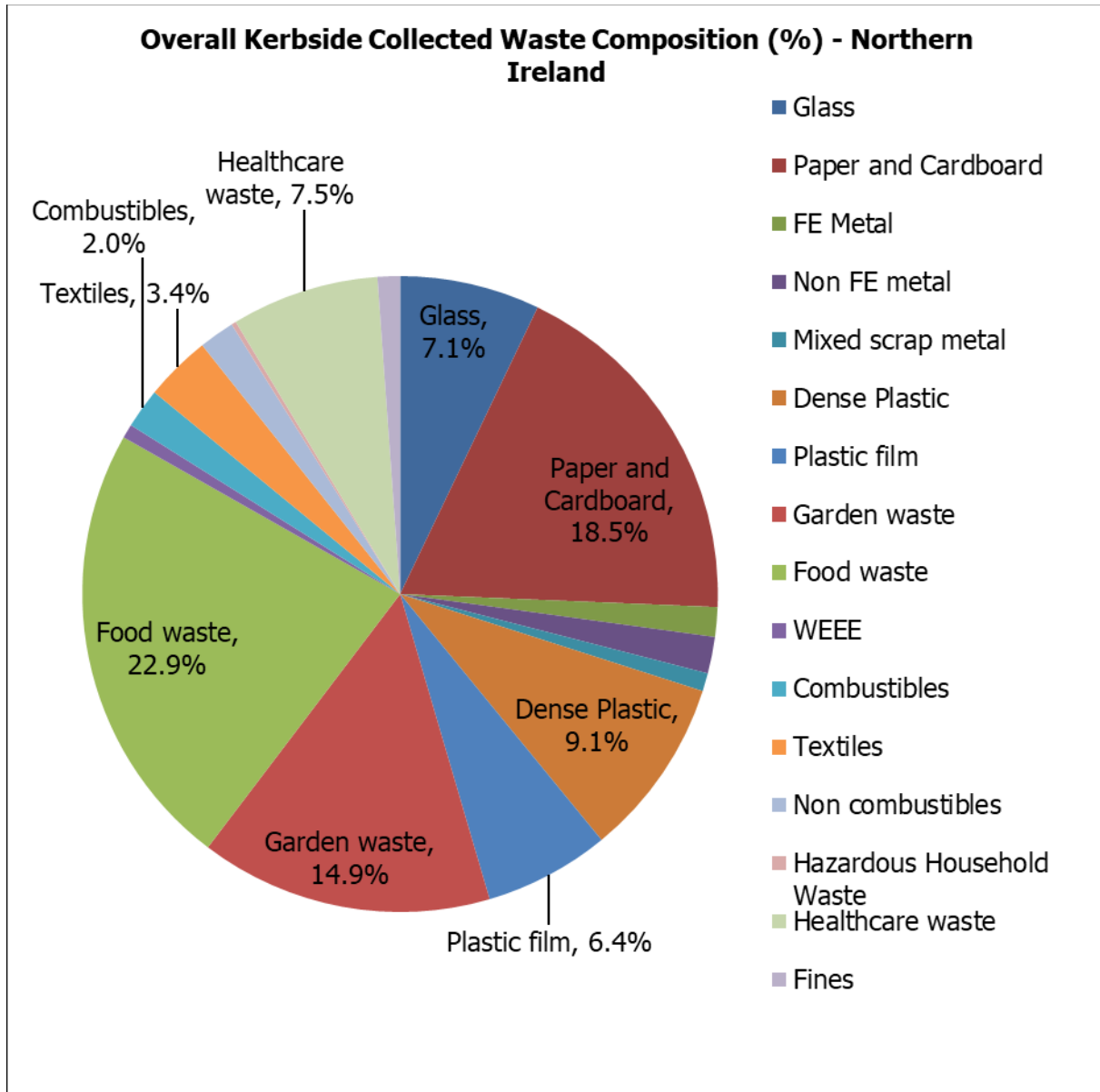
A study of the composition of household waste collected at the kerbside in Northern Ireland was undertaken in 2017 by RPS who were commissioned by WRAP, on behalf of the Department of Agriculture, Environment and Rural Affairs (DAERA). Waste composition analysis of kerbside collected material was carried out for 11 local authorities in Northern Ireland. The study identified a sample of 150 households for each local authority which were representative of the overall socio-economic makeup and waste collection services provided by the local authority. The waste streams covered in the household waste compositional analysis included:

- Kerbside collected residual waste;
- Kerbside collected commingled recyclates;
- Kerbside collected source segregated recyclates;
- Kerbside collected separate glass;
- Kerbside collected commingled organics;
- Kerbside collected separate food;
- Kerbside collected separate garden.

Waste composition was undertaken based on 54 pre-defined categories in accordance with industry standard categories devised by WRAP and Zero Waste Scotland.

Figure 3.2 shows the overall composition of what is thrown away in residual, dry recyclates and organic bins in Northern Ireland in 2017.

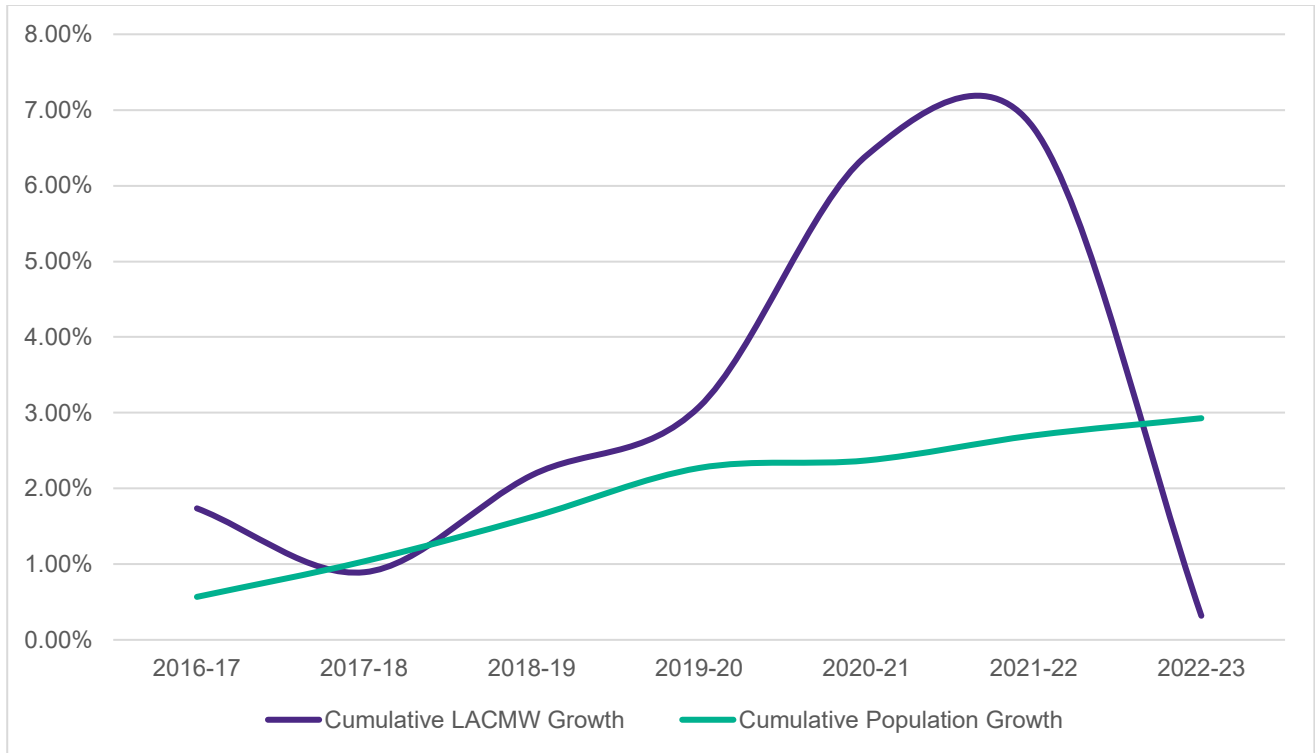
Figure 3.3 Overall composition (%) of primary waste categories in NI kerbside collected waste in 2017



3.4 Waste Projections to 2030

There is general industry consensus, based on a number of published UK waste reports that, notwithstanding any effects of resource efficiency, the pressure of increased population will result in a rise in household waste arisings. Figure 3.3 below illustrates the cumulative growth since 2016 for both population and waste growth. Up until 2019/20 there is a reasonable correlation but there was significant increase in LACMW growth in 2020 which is assumed to be as a result of covid and national lock downs. The most recent waste data published by NIEA indicates that there has been a large decrease in LACMW in 2022-23.

Figure 3.4 Cumulative Population Growth compared with Cumulative Waste Growth



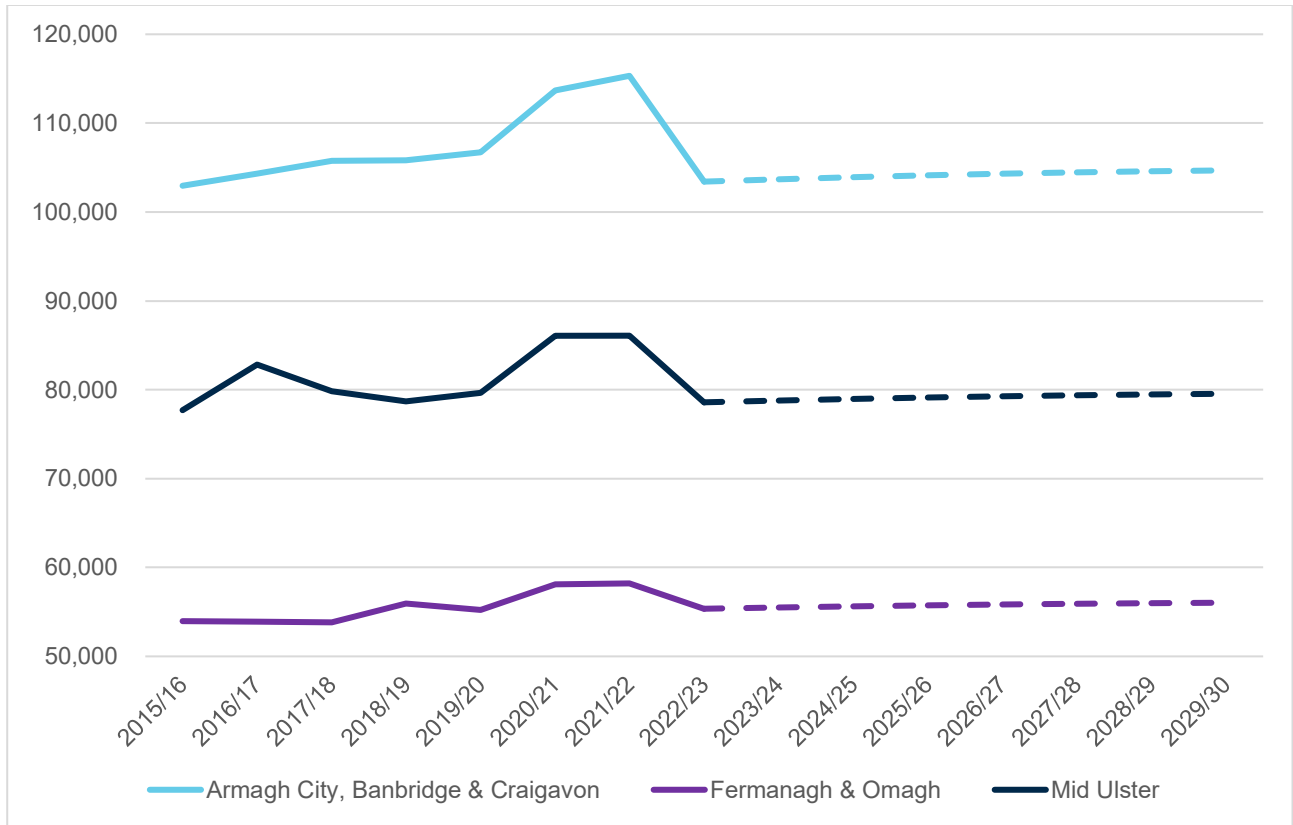
In January 2022, the Northern Ireland Statistics and Research Agency (NISRA) published projected population growth for Northern Ireland. This data indicates a total growth rate of just over 2% between 2020 and 2030 with close to zero population growth between 2030 and 2045. Our forecasted tonnages are based on different scenarios with a base waste growth in line with the NISRA reported projections.

The graph below provides projection of LACMW up to 2030 based on growth and in line with NISRA published projected population growth for Northern Ireland which is represented by the coloured dashed lines which has an average growth rate up to 2030 of 0.18%.

While the waste data since 2015 would indicate that waste growth is close to 0, there will be a need for changes to the existing waste management fleet and facilities to account for changes in the segregation of waste for treatment to achieve the staged recycling targets until 2035. The Second National Infrastructure Assessment identified that considerable investment was needed nationally to achieve Net Zero and the waste targets, and this was widely reported in the technical press⁸.

⁸ See MRW report on level of investment likely (see <https://www.mrw.co.uk/news/independent-commission-calls-for-15bn-waste-infrastructure-drive-18-10-2023/>)

Figure 3.5 LACMW Growth Scenarios



3.5 Approaches to Management of Waste

The approach to managing waste have not changed significantly since the 2015 Waste Management Plan but there have been advancements with innovation and efficiencies in these technologies. This includes:

3.5.1 Preparing for Re-use

There has been an increasing trend among local councils in the UK to set up and promote reuse centres. Communities are increasingly supportive of initiatives that contribute to environmental conservation. Reuse centres often operate as social enterprises, providing local employment opportunities and affordable goods to the community. They can also serve educational purposes, raising awareness about the importance of reducing waste. Councils can also partner with charities, private companies, and environmental organizations to operate these centres. Additionally, there are funding opportunities from governmental and non-governmental sources that can be utilized to support the establishment and operation of reuse centres.

There continues to be a number of initiatives in place Joint Councils area in relation to preparing for reuse with further details provided in Section 6.

3.5.2 Enhanced Recycling Techniques

There is ongoing developments in relation to how recycling collections are delivered by local authorities (Section 2.3.2 above) and the impact that ERP (Section 2.3.4 above) and DRS (Section 2.3.5 above) might

have on the recyclates collected. The position on these is expected to be made clear in the Waste Strategy for Northern Ireland due in 2025.

Advanced sorting technologies, including Artificial Intelligence (AI) and robotics, have been developed to improve the efficiency and effectiveness of recycling processes. These technologies can more accurately separate waste materials by type and composition, increasing the quality and quantity of materials that can be recycled. Robots equipped with AI and machine learning algorithms have become more prevalent in sorting facilities. These robots can learn and improve over time, increasing their sorting efficiency and accuracy. Equipped with various sensors, they can pick and separate materials at high speeds, reducing the reliance on manual sorting. AI algorithms have become better at recognizing and classifying different types of waste materials. These systems can analyse data from cameras and sensors to make real-time decisions about sorting, significantly improving the separation process. The use of data analytics in recycling operations has grown, allowing facilities to optimize sorting processes, reduce contamination, and improve the overall efficiency of recycling. By analysing data from various points in the recycling process, operators can identify bottlenecks, improve material recovery rates, and reduce operational costs.

3.5.3 Composting and Anaerobic Digestion

Similar to the dry recycling, kerbside collections are likely to change as set out in. Technological advancements in composting and anaerobic digestion have improved the conversion of organic waste into valuable compost or biogas.

In-Vessel Composting Systems have become more sophisticated, allowing for better control over environmental conditions (such as temperature, moisture, and aeration). The integration of sensors and computer controls allows for the real-time monitoring and adjustment of key composting parameters, such as temperature, moisture content, and oxygen levels. This technology ensures optimal conditions are maintained throughout the composting process, leading to higher quality compost.

Anaerobic Digestion advancements include significant improvements in technologies for biogas cleaning and upgrading to biomethane, which can be used as a renewable natural gas or for vehicle fuel. Membrane separation, water scrubbing, and pressure swing adsorption are examples of technologies that have become more efficient and cost-effective.

3.5.4 Thermal Treatment - Energy from Waste

Energy from Waste (EfW), which convert waste materials into electricity, heat, or fuel through various processes (e.g., incineration, gasification, pyrolysis), have become more efficient and environmentally friendly. Innovations in this area aim to reduce emissions and increase energy output, making thermal treatment a more viable option for managing non-recyclable waste.

The UK has historically lacked sufficient domestic capacity for EfW treatment. While recycling rates have improved, there remains a substantial amount of residual waste that cannot be recycled. The capacity of domestic EfW plants has not kept pace with the requirement to divert residual waste from landfill, leading to the need to find alternative solutions, such as exporting waste to countries with surplus EfW capacity.

3.5.5 Electronic Waste Management

With the rapid pace of technological change and the resultant growth in electronic waste (e-waste), new methods for recycling and recovering valuable materials from electronics have been developed. These include more efficient mechanical and chemical processes for extracting metals and other materials, as well as platforms for reusing and refurbishing electronic devices.

3.5.6 Circular Economy Initiatives

Technological innovations have also facilitated the transition towards circular economy models, where the value of products, materials, and resources is maintained in the economy for as long as possible. Digital platforms, blockchain technology, and product design software have enabled better tracking, sharing, and optimizing of resources, encouraging reuse, sharing, and remanufacturing.

3.5.7 Smart Waste Management Systems

The use of Internet of Things (IoT) devices, sensors, and smart bins in waste management has become more widespread. These technologies enable more efficient waste collection processes by monitoring waste levels, optimizing collection routes, and providing data for better waste management planning.

3.5.8 Landfill

Landfill engineering standards have not changed since 2015 but regulators are enforcing higher operational standards across the waste industry. The tonnage of waste going to landfill has fallen dramatically since 2015. In the period 2015 to 2023 the waste sent to landfills by the Joint Councils has been reduced by 59%.

Although landfill gate fees in Northern Ireland have decreased in recent years, the overall cost of landfilling waste has increased due to the Landfill Tax and the introduction of the landfill tax escalator.

The object of the Landfill Tax was to de-incentivise landfill as a waste disposal solution by charging a tax for each tonne of waste so disposed-of. This tax affects all materials collected by local authorities and sent to landfill. In 2007 proposals were made to introduce the landfill tax escalator. Currently landfill tax on active wastes is £102.10 per tonne and £3.25 per tonne for some inert or inactive wastes. From 1 April 2024 the standard rate will be £103.70 per tonne, and the lower rate will be £3.30 per tonne. In March 2024 as part of the spring budget it was announced that landfill tax rates for the year 2025-26 will be adjusted to better reflect actual RPI and ensure the tax continues to incentivise investment in more sustainable waste management infrastructure. The standard rate of landfill tax will increase to £126.15 per tonne and the lower rate will increase to £4.05 per tonne.

Falling gate fees are considered unsustainable and are a result of the anticipation of other treatment technologies being available in the coming years. Section 7 of this plan addresses remaining landfill capacity in Northern Ireland.

3.6 Current Arrangements

The current arrangements in place within the Council areas for the management LACMW are made up of three main components:

- Education and Awareness Programme;
- Materials Recovery - Recycling and Composting (including recycling and recovery of mixed waste from kerbside collections and household recycling centres); and
- Treatment and Landfilling of Residual Wastes.

The majority of waste and recycling services are delivered directly by each Council with additional recycling collection services being provided by the private sector. The services for the recovery of materials for recycling and composting are based on prioritising segregation at source and have included:

- Provision of receptacles for segregated collection at the household;
- Ensuring extensive coverage of bring sites in the Region; and
- Enhancement of services at Household Waste Recycling Centres (HWRC) for the segregation of wastes for recycling and recovery.

Table 3.4 sets out the waste collection arrangements currently in place in the Council areas in relation to the number of bins provided.

Table 3.4: Collection Infrastructure In the Joint Councils⁹

Council Area	No. of Residual Bins	No. of Kerbside Mixed Dry Recyclable Bins	No. of Kerbside Mixed Organic Bins	No. of Food Waste Caddies
Armagh, Banbridge & Craigavon	82,176	82,176	78,676	3,500
Fermanagh & Omagh	46,651	46,651	21,741	24,600
Mid Ulster	53,458	53,458	53,458	-

Table 3.5 sets out the facilities that are currently in use within the Council areas for collection, treatment and disposal of municipal wastes.

⁹ Data from WRAP Local Authority Portal

Table 3.5: Summary of Active Waste Facilities Owned and/or Utilised by Councils

Council Area	Operational Landfills	Waste Transfer Stations	Civic Amenity Sites/ Recycling Centres	Composting Facilities	Materials Recovery Facilities
Armagh, Banbridge & Craigavon	0	0	9	0	0
Fermanagh & Omagh	1	2	15	1	1
Mid Ulster	0	3	11	0	0

As can be seen from the table, within the Joint Council area there is only 1 operational landfill site which is owned by Fermanagh and Omagh District Council. There are 8 waste transfer stations which are used by the Councils throughout the Region. Currently the number of CA / HRC sites used by the Councils is 41. There are no composting facilities for the processing and treatment of organic wastes collected by the Council. A Materials Recovery Facility (MRF) for the processing and treatment of residual waste is currently operated by a private waste contractor. All Councils use MRFs for treatment of residual waste.

4 OTHER WASTE STREAMS

4.1 Introduction

The aim of this chapter is to provide information on what constitutes Other Waste Streams and from this determine any changes in arisings from the previous Waste Management Plan.

4.2 Definitions

Key definitions of different waste streams included in this section of the Plan are included below.

- **Commercial and Industrial Waste:** Waste from premises used wholly or mainly for the purposes of a trade or business, or for the purposes of sport, recreation or entertainment and waste from a factory and any premises used for the purposes of transport services, gas, water, electricity and sewerage services; and postal or telecommunications services.
- **Packaging Waste:** Packaging is any material used to hold, protect, handle, deliver and present goods. This includes packaging for raw materials right through to finished goods to be sold or being sold.
- **Hazardous waste:** Hazardous waste is defined by the EU Waste Framework Directive (2008/98/EC) and is described as waste which displays one or more of the hazardous properties listed in Annex 3 to this Directive.
- **Construction, Demolition and Excavation Wastes:** All waste from the construction, repair, maintenance, demolition and excavation of buildings or preparatory works thereto. Those waste materials which arise from the construction or demolition of buildings and/or civil engineering infrastructure, including hard construction and demolition waste and excavation waste, whether segregated or mixed.
- **Agricultural Waste:** Waste from premises used for agriculture within the meaning of the Agriculture Act (Northern Ireland) 1949. Under this definition agriculture includes 'horticulture, fruit growing, seed growing, dairy farming and livestock breeding and keeping, the use of land as grazing land, meadow land, market gardens and nursery grounds, and the use of land for woodlands where that use is ancillary to the farming of land for other agricultural purposes, and 'agriculture' shall be construed accordingly'.
- **Clinical Waste:** (a) Any waste which consists wholly or partly of human or animal tissue, blood or other body fluids, excretions, drugs or other pharmaceutical products, swabs or dressings, or syringes, needles or other sharp instruments, being waste which unless rendered safe, may prove hazardous to any person coming into contact with it; and (b) Any other waste arising from medical, nursing, dental, veterinary, pharmaceutical or similar practice, investigation, treatment, care, teaching or research, or the collection of blood for transfusion, being waste which may cause infection to any person coming into contact with it.
- **Sewage Sludge:** Sewage sludge is the residual sludge from wastewater treatment plants, produced from the treatment of domestic or urban waste waters and from other sewage plants treating waste

waters of a composition similar to domestic and urban waste waters. This waste stream also encompasses the residual sludge from septic tanks and other similar installations for the treatment of sewage.

- **Priority Waste Streams:** Priority Waste Streams have been identified on account of one or more of the following: their volume, hazardous nature, potential for recycling, potential to create an economic benefit or the fact that legislation is changing the way in which these materials have traditionally been managed. The Priority Waste Streams include:
 - **Waste Electrical Electronic Equipment (WEEE);** A waste stream defined by the European Community directive on waste electrical and electronic equipment (WEEE Directive) which, together with the RoHS Directive, became European Law in February 2003, setting collection, recycling, and recovery targets for all types of electrical goods.
 - **End of Life Vehicles:** Vehicles which have reached the end of their useful lives, either because of old age or due to accident. This waste is a priority EC waste stream and principally regulated by The End-of-life Vehicles Directive (2000/53/EC) came into force in the UK in November 2003.
 - **Tyres:** tyres that have been discarded because they are no longer suitable for their original intended purpose because of wear, damage or defect regardless of size, whether on rims or not.
 - **Batteries:** battery and its components thereof, whole or in part discarded as waste by the consumer or bulk consumer as well as rejects from manufacturing, refurbishment and repair processes.

4.3 Changes in Waste Tonnages

There have not been any new waste statistics collected in Northern Ireland for these waste streams since the previous Joint Waste Management Plan. Estimates of arisings have therefore been made based on the most up to date data available.

4.3.1 Commercial and Industrial Waste

A study conducted by WRAP in 2009¹⁰ estimated there to be 1,288,996 million tonnes of commercial and industrial (C&I) waste in Northern Ireland. This comprised 0.8 million tonnes from the industrial sector and 0.5 million tonnes from the commercial sector. C&I waste for the whole of UK within the 2009 period was estimated by DEFRA¹¹ to be 45.0 million tonnes (thus making NI 2.86% of the UK total).

There have been no specific Northern Ireland studies since this data was produced and therefore UK data is being used (UK Statistics and Waste Data 2023) and an estimate produced for Northern Ireland.

The total C&I arisings for UK in 2020 are estimated to be 46.3 million tonnes (of which 33.6 million tonnes are commercial and 12.5 million tonnes are industrial).

¹⁰ WRAP Northern Ireland Commercial and Industrial (C&I) Waste Estimates, 2009

¹¹ https://assets.publishing.service.gov.uk/media/5a80dea2ed915d74e6230ea9/Digest_of_waste_England_-_finalv3.pdf

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Using the same proportion of C&I waste within NI as in the 2009 figures, this would equate to an estimation of 1,326,234 tonnes.

Table 4.1 shows the approximate breakdown per Council area (based on the percentage of total arisings calculated in 2009).

Table 4.1: Approximate C&I Waste Arisings per Council Area

Council Area	C&I Waste Arisings (tonnes)	% of total arisings
Armagh, Banbridge & Craigavon	173,230	13.1
Fermanagh & Omagh	104,563	7.9
Mid Ulster	121,668	9.2
Joint Council Total	399,461	30.1
NI TOTAL	1,326,234	100

A report commissioned by DAERA and undertaken by the Strategic Investment Board (SIB)¹² in 2012 projected municipal waste arisings for Northern Ireland up to 2020. Within this report, the Commercial and Industrial Waste arisings were predicted to be 1,208,483 with an upper confidence level of 1,347,217. The estimated arisings within Table 4.1 are therefore within the confidence levels of these predictions.

4.3.2 Packaging Waste

Packaging waste arisings have been calculated based on UK Statistics on Waste Data, 2023¹³. The total arisings are presented in Table 4.2 below.

Table 4.2: Packaging Waste Arisings, UK 2021

Material	Packaging waste arisings (000 tonnes)
Metal	756
- Of which: aluminium	209
- Of which: steel	547
Paper and Card	5,389
Glass	2,581
Plastic	2,514
Wood	1,433
Other materials	23
TOTAL	12,696

Based on the UK and Northern Ireland Packaging Waste arisings in 2011 the same percentage difference has been used to estimate that the total packaging waste for Northern Ireland is approximately 303,943 tonnes for the year 2021.

¹² <https://www.daera-ni.gov.uk/publications/update-april-2012-analysis-2020-residual-waste-infrastructure-requirements-northern>

¹³ https://assets.publishing.service.gov.uk/media/64945b109e7a8b0013932a0c/UK_Statistics_on_Waste_dataset_June_2023_accessible.ods

4.3.3 Hazardous Waste

There have been no new waste arisings figures produced for Northern Ireland since the last waste plan was published and UK published data is very limited. However, it has been stated that the amounts of hazardous waste generation in Northern Ireland has been decreasing since 2014 with approximately 82,000 tonnes arising in 2014, 70,000 tonnes in 2016 and 64,300 tonnes in 2017.¹⁴

According to a briefing note produced for the NI Assembly in 2017¹⁵ approximately 22% is transported across to England and Scotland, and just over 7% is exported outside the UK. The remaining hazardous waste, approximately 71%, remains in NI.

4.3.4 Construction, Demolition and Excavation Waste

A study carried out by WRAP estimated that C, D and E waste arisings were 3.55 million tonnes in Northern Ireland in 2010¹⁶. There have been no specific Northern Ireland studies since this data was produced and therefore UK data is being used (UK Statistics and Waste Data 2023) and an estimate produced for Northern Ireland.

Between 2010 and 2021 there was a decrease of 0.16% in C, D and E arisings from 59.2 million tonnes to 59.1 million tonnes in the UK. In 2010, Northern Ireland represented 5.96% of the total UK figure. This percentage has been used to calculate the 2020 estimated arisings, taking into consideration the fall in UK. This equates to approximately 3,524,686 tonnes of C, D and E waste produced.

The breakdown of this (based on the proportion of total arisings in 2010 is shown in Table 4.3 below:

¹⁴ Waste Management Plan for Northern Ireland, 2019

¹⁵ <http://www.niassembly.gov.uk/globalassets/documents/raise/publications/2016-2021/2017/aera/1217.pdf>

¹⁶ Construction, Demolition and Excavation Waste Arisings, Use and Disposal in Northern Ireland 2009/10 WRAP 2011.

Table 4.3: Estimated C, D & E arisings in NI 2020

Haz/Non Haz	Waste Type	Estimated Arisings (Tonnes)	Proportion of Total Arisings (%)
Non-Hazardous	Mixed Hard Inert	1,027,630	29.2
	Wood	14,914	0.4
	Glass	1,122	<0.1
	Plastic	1,329	<0.1
	Bituminous mixtures	71,176	2.0
	Metals	7,850	0.2
	Soil	2,301,613	65.3
	Insulation	910	<0.1
	Gypsum	1,707	<0.1
Other Non-Hazardous	77,023	2.2	
	TOTAL NON-HAZARDOUS	3,505,275	99.4
Hazardous	Wood, glass and plastic	7	<0.1
	Metals	101	<0.1
	Soil	9,058	0.3
	Insulation	992	<0.1
	Gypsum	145	<0.1
	Other Hazardous	9,108	0.3
	TOTAL HAZARDOUS	19,411	0.6
	TOTAL WASTE ARISINGS	3,524,686	100

4.3.5 Agricultural Waste

There is currently no specific waste data on agricultural waste arisings in Northern Ireland.

An Agricultural Census is undertaken in Northern Ireland annually.¹⁷ Table 4.4 shows the updated figures for total areas for each crop and total numbers of each livestock from 2018 to 2022.

¹⁷ https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Agricultural%20Census%202022%20Publication_1.pdf

Table 4.4: Crop Areas and Livestock Numbers in Northern Ireland

Crops and Livestock	2018	2022
Crop Area (Hectares)		
Grass	807,620	822,184
Hill or rough land	143,156	141,565
Cereals	29,662	32,681
Other field crops ¹⁸	12,477	13,040
Horticultural crops	2,798	2,418
Other land ¹⁹	26,683	31,382
Livestock Numbers (head)		
Cattle	1,629,068	1,686,999
Sheep	2,005,998	2,100,886
Horses	8,970	6,277
Goats	3,760	2,819
Pigs	633,644	738,540
Poultry	26,030,583	20,643,073

4.3.6 Clinical Waste

As with the previous Plan, clinical waste is measured as the waste produced from hospitals and community healthcare facilities. Estimates of hospital waste are calculated as the average available hospital beds within each healthcare trust in Northern Ireland with an estimation that each bed produces approximately 500Kg of clinical waste per annum (Audit Commission, 1997).

The most recent set of statistics, published in 2023²⁰ suggest that there was an average of 6127 available beds in 2022/23 with an average occupation of 5033.9 beds (82.15% occupancy). This equates to 2,517 tonnes of hospital waste per year.

It is estimated that the volume of community clinical waste produced in relation to hospital waste is 50% to 100% (IWM, 2000). This would result in a waste production of between 1,258 and 2,517 tonnes.

Therefore, clinical wastes in Northern Ireland from hospital and community care facilities are estimated to be in the region of between 3,775 tonnes and 5,034 tonnes in 2022/23.

4.3.7 Sewage Sludge

There have been no studies of sewage sludge arisings in Northern Ireland since the last Plan was published. In 2012, the total dry solids sludge produced in Northern Ireland was 39,000 tonnes. Based on population

¹⁸ Other Crops- Oilseed rape, turnip/beet, kale/cabbage, other stock feed crops, Triticale, Flax, other glasshouse crops, Hemp, WBC

¹⁹ Other land- fallow land, roads, buildings, bogs, wasteland, gardens etc.

²⁰ <https://datavis.nisra.gov.uk/health/ni-inpatient-stats-22-23.html>

figures this would equate to 0.02 tonnes per capita. Using the 2021²¹ census data for Northern Ireland, the total figure is estimated to be approximately 40,804 tonnes.

4.3.8 Priority Waste Streams

4.3.8.1 Waste Electrical and Electronic Equipment

As reported in the previous plan, WEEE collected from households and businesses was estimated to be 13,133 tonnes, based on 4% of materials collected from recycling and composting in Northern Ireland²². Changes in the reporting mechanisms within DAERA have resulted in this figure no longer being separately calculated.

An estimation has been made based on the figures presented in Table 3.1 of this report. Using the 4% of arisings used above, this would equate to approximately 18,254 tonnes of WEEE produced in NI in 2021/22.

4.3.8.2 End of Life Vehicles

It is estimated in the UK that between 1.6 and 2 million End of Life Vehicles (ELVs) are arising in the UK every year. This represents approximately 4.5% of the vehicles registered.²³

Northern Ireland had 1,249,000 vehicles registered in 2021. If the same percentage is used as in UK, this equates to a total of 55,787 vehicles scrapped in the period. Approximately 85% of this figure is recycled. In order to estimate these arisings, it was assumed that the total number of deregistered vehicles that were scrapped is equivalent to the total number of ELV arisings in Northern Ireland.

4.3.8.3 Tyres

The last available dataset for tyres arisings in Northern Ireland was in 2012 where 18,597 tonnes of used tyres were present in Northern Ireland.²⁴ Based on previously collected data in NI ²⁵ it has been estimated that tonnage increases by approximately 1% per year. This would equate to arisings of approximately 20,543 tonnes in 2021/22.

4.3.8.4 Batteries

As with the previous plan, data on battery arisings is limited as there have been no surveys estimating battery arisings within Northern Ireland. However, in the UK in 2022, the National Waste Packaging Database²⁶ reported that approximately 41,400 tonnes of batteries were placed on the market by battery compliance

²¹ <https://www.nisra.gov.uk/statistics/census>

²² <https://www.daera-ni.gov.uk/publications/northern-ireland-environmental-statistics-report-2012>

²³ <https://www.gov.uk/government/statistics/vehicle-licensing-statistics-2021/vehicle-licensing-statistics-2021#licensed-vehicles-overview>

²⁴ All Island Used Tyre Survey 2012, DOENI and DECLG

²⁵ Northern Ireland Used Tyre Survey, 2000

²⁶ <https://npwd.environment-agency.gov.uk/FileDownload.ashx?FileId=a57305bd-61d1-460a-a9e0-4f82246a7dfb>

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scheme members. Using population figures for 2022 (population of 1,910,500), this equates to 1,172 tonnes of batteries on the market in Northern Ireland in 2022.

Using the previous calculation in the Plan of 0.3Kg battery arisings per person would translate to 573 tonnes of waste per annum in Northern Ireland (based on 2021 census data).

5 EDUCATION AND AWARENESS

5.1 Education and Awareness campaigns

Waste Education and Awareness campaigns has been a key component for the Councils. The Councils have carried out a large number of waste education and awareness initiatives in order to promote waste minimisation whilst at the same time promoting sustainable waste management behaviour amongst stakeholders.

Education and Recycling Officers are appointed in each of the individual Council areas, with the aim of operating education programmes in schools and community groups, with the aim of highlighting waste minimisation strategies including the principles of reduce, reuse and recycle.

In addition to local engagement the Councils participate in the following wider schemes:

- European Week for Waste Reduction (EWWR) is an initiative aimed at promoting actions to prevent waste generation and to raise awareness about sustainable resource and waste management among a wide range of audiences across Europe. It encourages all participants—public authorities, private companies, civil society, and citizens alike—to get involved in awareness-raising activities about waste reduction, reuse, and recycling during a specific week in November each year. The Councils organise a wide range of activities, such as educational workshops, awareness-raising campaigns, competitions, and exhibitions, to engage local communities and promote sustainable waste behaviours.
- WRAP's Food Waste Action Week The week involves a series of activities, campaigns, and educational resources designed to inform the public, businesses, and policymakers about the scale of food waste and its impact not just on the environment, but also on the economy and social welfare. The initiative seeks to drive home the message that wasting food contributes to climate change and to encourage everyone to adopt practices that can minimise food waste.
- WRAP's Recycle Week aims to celebrate recycling achievements and progress across the country while also educating the public about the importance of recycling more and better, understanding what items can be recycled, and the benefits of recycling for the environment and the economy. (social media campaigns)
- Eco Schools Programme encourages schools across the UK to embark on a journey to improve their environmental performance, integrate sustainability into the curriculum, and develop the school grounds and local community's understanding and involvement in environmental issues. Participating schools follow the same seven-step process that is central to the Eco-Schools programme globally.
- The Bin-Ovation app represents a convenient, user-friendly approach to enhancing public engagement with recycling and waste management practices. By making it easier for people to access accurate and up-to-date information on how to properly handle their waste, apps like Bin-Ovation play a crucial role in supporting environmental sustainability efforts at the local and broader levels.
- Collaboration with Fairtrade to contribute to the broader goals of reducing poverty, improving working conditions, and promoting sustainability in developing countries.

- The lack of standardisation of kerbside collections means it is often difficult to deliver a central education message. This would also make WRAP’s comms campaigns easier to design to encourage behavioural change. A co-ordinated regional communications campaign highlighting the impact of people choosing to dispose of recyclable and compostable materials in residual waste bins would be beneficial.

Examples of each of the Councils activities are summarised in the sections below.

5.1.1 Armagh, Banbridge & Craigavon Borough Council

The activities recently undertaken by the Council in relation to waste education and awareness is provided in Table 6.1 below.

Table 6.1: Waste Education and Awareness Activities in Armagh Banbridge and Craigavon Borough Council

Name of scheme	No. of householders involved	Details
Recycle week and associated campaigns	All Households	Support the campaign- social media posts etc
EWWR and associated campaigns	All Households	Support the campaign- local actions, social media posts
Compost awareness week	All Households	Compost giveaway to community groups/ social media posts
Job share Education officers	All schools	School programmes
Recycling Inspectors who deliver community waste promotions	All community groups	Community groups/ targets recycling contamination issues
Attend local events to promote the work of the Department	Support local events	Council organised events, stall with info
Comms plan being developed for the year	All Households	Team development day organised to develop plan for the following year
ABC Council app	All Households	Promotion of app and ensure the app hold useful updated info
The ABC’s of Recycling 4 week social media campaign highlighting general messages to recycle correctly.	All households	Promotion of app and tips for recycling
Pop up/ focused recycling comms at Recycling Centres	All Households	In partnership with third sector organisations focus on specific items for focused campaigns- e.g., spectacles, bicycles, Sewing machine appeals.
Carbon literacy training	15 staff	Training delivered by Climate NI
Eco schools	Offered to all schools	Participation in the Eco-Schools programme which encourages and directs young people to think about the environment including litter, recycling, energy saving, water conservation, etc.
Reusable Nappy Scheme	Offered to all households	Promotion of the Council’s Reusable Nappy Scheme across the district.

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Refillution scheme	Throughout the borough	To develop a network of water refill points in the borough
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5.1.2 Fermanagh & Omagh District Council

The activities recently undertaken by the Council in relation to waste education and awareness is provided in Table 6.2 below.

Table 6.2: Waste Education and Awareness Activities in Fermanagh and Omagh District Council

Name of scheme	No. householders involved	ofDetails
Community Groups	225	Talks on Litter, Waste & Recycling
Shows/Events	2,256	Trade stands - Shows & Events
CDEF Blue Bin Recycling Campaign	59,847	A blue bin recycling campaign developed by FODC on the concept of items being Clean, Dry, Empty, Flat to improve recyclable value and increase recycling rate thus reducing waste to landfill
European Week of Waste Reduction – Reuse	15128	National campaign to encourage waste reduction and we focussed on reuse / second hand
Paint Reuse Scheme	27,057	Promotion of Paint Reuse Scheme available at our Recycling Centres
Recycling Bins at Gortin Glen Forest Park	1,026	Recycling bins in one of the busiest parks in the District to encourage more recycling and less litter and waste to landfill
Reusable Nappy Week	7,068	Promotion of the Council's Reusable Nappy Scheme during the national campaign. Scheme offers a £25 refund on the purchase of reusable nappies which helps to reduce waste
Compost Awareness Week	6,033	Campaign to encourage people to compost food waste and brown waste to make compost for reuse and reduce waste
Water Refill Stations	20,571	Installation of Water Refill Stations in 4 locations in the District to encourage people to use reusable water bottles and reduce plastic bottle use
Leave No Trace – Littering	103,603	Encouraging people to not litter and possibly recycle some of their items such as bottles to help to reduce waste.
Carbon literacy training	76	Certified training delivered by Climate NI
Senior Leader's Carbon literacy training	12	Certified training delivered by Climate NI
Formation of Climate Champions Group	42	Raising awareness of Climate initiatives among staff. Meet bi-annually
Climate Engagement Event –Enniskillen and Omagh	28	To encourage and empower communities to participate in Council engagement structures and initiatives re climate change

5.1.3 Mid Ulster District Council

The activities recently undertaken by the Council in relation to waste education and awareness is provided in Table 6.3 below.

Table 6.3: Waste Education and Awareness Activities in Mid Ulster District Council

Name of scheme	No. of householders involved	Details
Bin Ovation App		A hi-tech education and awareness communication tool
Community Events	Open participation is invited throughout the whole Mid Ulster District Council area.	Providing waste education and recycling information at events. Engaging with members of public and children through recycling outdoor games, recycling education activities for children, seed planting etc.
Business Engagement	Planning stage	This scheme is aimed at the Production and Manufacturing Businesses industry as these are centred within our Mid Ulster area. The aim is to engage a programme to educate workers on protecting our environment, anti-littering programmes of education, awareness and enforcement.
Eco Schools	123 Schools	Participation in the Eco-Schools programme which encourages and directs young people to think about the environment including litter, recycling, energy saving, water conservation, etc.
Recycle Week and European Week of Waste Reduction	All Households	Support the campaigns - school & community group visits and events, social media posts etc...
Compost Awareness Week	Open participation from schools and community groups is invited throughout the whole Mid Ulster District Council area.	Campaign to encourage people to compost food waste and garden waste.
Refillution	1,100 Staff	Distribution of free reusable water bottles to all staff to encourage people to use reusable water bottles and reduce plastic bottle use. Developing a project to install publically accessible water refill stations at 6 Council facilities within the district.
Paint Reuse Scheme	All Households	Promotion of Paint Reuse Scheme available at the 3 largest Recycling Centres in Dungannon, Cookstown and Magherafelt.
Uniform Reuse Scheme	All Households	Promotion of Uniform Reuse Scheme available at the 3 largest Recycling Centres in Dungannon, Cookstown and Magherafelt with collected items distributed to 3 local Cancer charities.

Large Domestic Appliance Reuse Scheme	All Households	Promotion of Large Domestic Appliance Reuse Scheme available at the Recycling Centres in Magherafelt, Maghera and Draperstown initially but with ambitions to expand.
Reusable Nappy Scheme	All Households	Promotion of the Council's Reusable Nappy Scheme across the district.
Carbon literacy training	27 Staff	Training delivered by Climate NI & Business In the Community.

5.2 Reuse and Pilot Schemes

5.2.1 Fermanagh & Omagh District Council

Fermanagh and Omagh District Council operate the pilot schemes outlined in Table 6.4 below.

Table 6.4: Pilot Schemes in Fermanagh and Omagh District Council

Name of scheme	Date started	Date finished	Details
Office Recycling Bins in Council buildings	15 February 2023	Current	Bins in Offices to encourage Staff to separate their waste into recycling and residual to reduce waste to landfill
Uniform and Coat Reuse Scheme		Current	Promotion of Coats and Uniform Reuse Scheme.
Make the most of your slow cooker			The Councils' Community Services team in conjunction with the Public Health Agency undertook a 'Make the most of your slow cooker' facilitator programme and was targeted at any households experiencing fuel or food poverty
Staff FreeCycle	26 July 2023	Current	FreeCycle style initiative to allow staff to pass on items they no longer need or want and prevent them from going to landfill

The Department of Agriculture, Environment and Rural Affairs (DAERA), Fermanagh and Omagh District Council and Northern Ireland Local Government Association (NILGA) are running a new Small Business Research Initiative (SBRI) competition focused on increasing household recycling practice through the novel use of persuasive technologies. The Council are working with looking for Persuasive Technologies that can change household waste recycling behaviour. To achieve the step change needed in recycling rates, more sophisticated behavioural change interventions will be needed. Persuasive Technologies, designed to change attitudes and behaviours through persuasion and social influence, have the potential to provide such a step change. Solutions may include websites, social media and app interventions, chatbots etc.

To date, Persuasive Technologies, which are underpinned by AI algorithms, have been mostly used for sales, politics, and public health interventions to achieve tangible results. At present, evidence from waste and recycling managers across the local government sector in NI, coupled with desk research, has established there are limited examples of solutions where Persuasive Technologies have been applied to real world recycling challenges. This is supported by recent research by WRAP, which identifies that behaviour change

interventions are needed to bring about the necessary change in recycling rates. This is a very new area and, thus, there is the opportunity and potential for genuine innovation.

5.2.2 Mid Ulster District Council

Mid Ulster District Council operate the pilot schemes outlined in Table 6.5 below throughout the whole Mid Ulster District Council area.

Table 6.5: Pilot Schemes in Mid Ulster District Council

Name of scheme	Date started	Date finished	Details
School Uniform Recycling Scheme	4 August 2023	Current	A pilot scheme is in operation at the Council’s 3 main recycling centres in Cookstown, Dungannon and Magherafelt to try and intercept these uniforms before they made it to the textile recycling banks and were lost as a resource to our local schools and communities.
Community Re-Paint Scheme	Pilot Operational	Pilot Operational	Community RePaint is a UK wide paint reuse network, sponsored by Dulux, that aims to collect leftover paint and redistribute it to benefit individuals, families, communities and charities in need at an affordable cost. The Council currently has paint reuse schemes at Drumcoo, Cookstown and Magherafelt Recycling Centres. The project involves the purchase of large plastic containers for each site to act as initial paint container receptacle including some spares for change overs at outlying sites.
School Bicycles for Africa Reuse Scheme	2011	Current	Promotion of Bicycle Reuse Scheme available at various Recycling Centres in Partnership with Rotary Club Ireland.
MUDC Large Domestic Appliance Reuse Scheme – Recycle	Dec 2021	Current	Mid Ulster District Council currently collects WEEE at 10 recycling centres across the district for recycling only. The Recycle Refresh Renew Scheme is designed to introduce the sorting of good quality large domestic appliances for repair and reuse by our sub-contractor Refresh Appliances (ERP) at 4 of the larger HWRC’s. Site staff segregate any LDA in good condition i.e. free of dents, no obvious missing parts and good cosmetic condition. Refresh appliances then refurbish & repair as necessary for subsequent sale through their physical & on-line stores. Refresh Appliances is a Social Enterprise Company that works closely with a number of charities in Northern Ireland.

5.3 Waste Minimisation

There has been significant progress in the Council area with regard to waste education and awareness initiatives as outlined in the information above and this has also contributed to the improved performance in recycling and composting. All member Councils have carried out waste awareness initiatives with the aim of

raising awareness, encouraging best practice and achieving behavioural change by all stakeholders, in order to affect a cultural shift towards better resource management and improved environmental quality. Initiatives like those outlined above will continue in each of the Council areas and is now embedded in the Councils' approach to issues such as Climate Change and the Circular Economy. This includes working with the community sector/organisations to demonstrate that minimising waste or climate issues can be a tool for community development. This all requires greater resourcing and sufficient budgets to enable Councils to offer incentives to encourage increased resident engagement.

The Councils consider that more localised media/awareness campaigns, which are specific to recycling in Northern Ireland would allow people to better relate to waste minimisation when compared to a national campaign. The business sector also plays an important role and greater collaboration with businesses to identify the support they require and gain access to trade waste collection data.

Minimizing waste is aligned with the principles of a circular economy and can lead to cost savings for businesses and the public sector by reducing disposal costs and promoting more efficient use of materials. It can also drive innovation, creating new business opportunities and jobs in sectors such as recycling, repair, and reuse. There is a growing awareness and concern among the public and consumers about environmental issues, including waste. By investing in waste minimization, the NI government and businesses can respond to this demand and demonstrate their commitment to sustainable practices.

Funding is required to effectively plan and implement reuse initiatives. Without additional funding streams being made available, Council will be struggling to implement many of the requirements coming from legislation/policy guidance. Furthermore guidance is required on regional waste strategy, and schemes/initiatives that are coming down the line to allow sufficient planning for successful implementation e.g. EPR, DRS, and to allow Council's to align their policies, contracts, strategies etc. to work towards encompassing and allowing for these.

6 LANDFILL CAPACITY ASSESSMENT

The landfilling of waste in Northern Ireland has fallen dramatically over the last 20 years when close to 100% of LACMW was sent to landfill. That figure is now less than 15% for the Joint Councils. Alternative options have been used by Councils in that period to divert waste from landfill in accordance with the Landfill Directive by increasing tonnage sent for recycling and recovery. The EU Circular Economy Package aims to reduce the landfilling of municipal waste to a maximum of 10% of the total amount of waste generated by 2035. Even with the waste treatment options available to Councils there will be an ongoing need for landfill capacity albeit at a much reduced level. This section identifies the remaining capacity available in Northern Ireland and considers the potential of future capacity.

6.1 Scope of Capacity Assessment

Following a review of the Pollution Prevention and Control Public Register available on the NIEA website²⁷, it has been identified that there are currently 6 PPC Permits in operation for non-hazardous landfill sites in Northern Ireland. The estimated remaining capacity for each site was provided by NIEA and was taken from Annual Environmental Returns for 2022.

6.2 Assessment of Active Sites in Northern Ireland

Table 7.1 identifies the sites that currently have the required consents to accept non-hazardous waste and the estimated remaining capacity taken from Annual Environmental Returns for 2022.

Table 7.1: Permitted Non-hazardous Landfill Sites

Permit No	Name	Group/Council	Operator	Permitted Annual Tonnage	2022 Estimated Remaining Capacity ²⁸ (m ³)
P0148/06A/V3	Craigahulliar Landfill	NWRWMG	Council	90,000	20,000
P0087/05A/V11	Craigmore Landfill	NWRWMG	Private	200,000	206,825
P0107/05A/V3	Drummee Landfill ²⁹	Fermanagh and Omagh District Council	Council	40,000	39,099
P0110/06A/V3	Aughrim	arc21	Private	250,000	321,259
P0090/05A/V5	Cottonmount ³⁰	arc21	Private	325,000	2,807,337
P0340/10A/V1	Crosshill Quarry	arc21	Private	200,000	291,573

²⁷ <https://www.daera-ni.gov.uk/publications/pollution-prevention-control-permits>

²⁸ Reported to NIEA through annual reporting.

²⁹ Drummee Landfill is due to close in late 2024.

³⁰ This site is currently also an active quarry and blasting takes place ahead of filling of waste.

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As can be seen from Table 7.1 only 2 of the remaining 6 operational non-hazardous landfill sites are Local Authority owned and operated. The number of the Local Authorities/Private non-hazardous landfill sites that have closed since the 2015 plan is provided in Table 7.2.

Table 7.2: Permitted Non-Hazardous Landfill Sites (Closed)

Permit No	Name	Group/Council Area	Operator
P0336/09A/V2	Ballymacombs Landfill,	Mid Ulster District Council	Council
P0152/06A	Aughnagun Landfill	arc21	Council
P0107/05A/V3	Magheraglass Landfill,	Mid Ulster District Council	Council
P0184/07A/V5	Tullyvar	Mid Ulster District Council	Council
P0145/06A/V6	Lisbane ³¹	Armagh Banbridge and Craigavon District Council	Private
P0154/06A/V5	Drumanakelly	arc21	Council
P0107/05A/V2	Mullaghglass	arc21	Private

6.3 Future Landfill Capacity

The remaining life span in years of the 6 operational non-hazardous landfill sites is provided in Table 7-4. This is based on the following:

- 2022 Estimated Remaining Capacity (Tonnes),
- Average of annual waste acceptance tonnages in 2021 and 2022,
- Remaining capacity (Years) based on permitted tonnage.

The total waste landfilled at non-hazardous landfills in 2022 was 525,000 tonnes. There is approximately 3.7 Million tonnes of operational capacity remaining Northern Ireland although the vast majority of this is at the Cottonmount Landfill site that will require significant investment for the development of new cells which is likely to be dependent upon the award of new contracts which would justify the investment needed to develop these. This investment is likely to be only commercially viable with significant increases in gate fees charged by operators. If landfill continues at the current rates and capacity continues to be developed, this site will be exhausted within 10 years.

However it is noted that a number of Councils in Northern Ireland continue to divert an increasing tonnage of waste from landfill by making use of waste treatment capacity in Northern Ireland and exporting waste for recovery outside of the UK. It is likely that in the current circumstance, this will continue to increase year-on-year in order to divert waste from a dwindling number of facilities with declining capacity, and to achieve targets.

³¹ Accepting inert waste only

Table 7.3: Permitted Non-hazardous Landfill Sites Remaining Lifespan

Name	Estimated Remaining Capacity (T)	Average annual Tonnage ³²	Estimated Remaining Lifespan ³³
Craigahulliar Landfill	20,000	34,631	0.6
Craigmore Landfill	206,825	174,223	1.2
Drummee	39,099	23,772	1.6
Aughrim	321,259	54,875	5.9
Cottonmount ³⁴	2,807,337	158,472 ³⁵	17.8
Crosshill Quarry ³⁶	291,573	79,585	3.7
TOTAL	3,686,094	525,588	

6.4 Identification of Potential Development Sites

A site at Cam Road, located between Limavady and Coleraine has secured the relevant statutory permissions, but the site remains undeveloped to date. It is noted that this PPC Permit is not listed on the DAERA PPC Permits register so it is unclear as to the current status of this Permit.

Table 7.4: Determined Permitted Non-hazardous Landfill Sites

Permit No	Name	Group	Operator	Permitted Capacity on Issue of PPC Permit (m ³)	Permitted Annual Tonnage
P0577/18A	Cam Road	NWRWVG	Private	1,200,000	200,000

³² Based on 2021 and 2022 data.

³³ A figure of 0.8t/m³ used as a conversion from remaining void space and based on average landfilling in 2021 and 2022.

³⁴ This site is currently also an active quarry and blasting takes place ahead of filling of waste.

³⁵ Site also accepts a small amount of Hazardous Waste in addition to this figure

³⁶ Wastes accepted exclude domestic/household waste and food wastes.

Appendix A

Site Digest