Rialtas Áitiúil Éireann
Local Government Ireland

NATIONAL WASTE MANAGEMENT PLAN
FOR A CIRCULAR ECONOMY 2024-2030

VOLUME VA
SEA STATEMENT

REGIONAL WASTE MANAGEMENT PLANNING OFFICES

CONTENTS

Figures

Tables

1 INTRODUCTION

The Regional Waste Management Planning Offices (RWMPO), on behalf of the Local Government Sector (LGS) and under the auspices of the County and City Management Association (CCMA) National Oversight Group, has prepared the National Waste Management Plan for a Circular Economy 2024 – 2030.

This Plan sets out a framework for the prevention and management of waste in Ireland for the period 2024 to 2030 and sets out the targets, policies, and deliverables to be pursued over the next six years and beyond to achieve 0% waste growth per person over the life of the Plan.

This Strategic Environmental Assessment (SEA) Statement has been prepared as part of the SEA of the National Waste Management Plan for a Circular Economy 2024 – 2030, hereafter referred to as 'the Plan'. It has been prepared in accordance with Article 8 (Decision Making) of EU Directive 2001/42/EC on Strategic Environmental Assessment; Article 16(2) of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations (S.I. No. 435 of 2004) as amended; and Circular Letter PL 9/2013, Department of Environment, Community and Local Government.

This document provides information on the decision-making process and documents how environmental considerations, the views of consultees/stakeholders and the recommendations of the SEA Environmental Report and the assessment carried out under Article 6 of the Habitats Directive have influenced the final Plan to be adopted.

The structure of the SEA Statement is as follows:

1. Introduction;
2. Summary of Key Facts;
3. Summary of the SEA Process;
4. Influence of the SEA Process on the Plan;
5. How Consultation Feedback has influenced the Plan;
6. Preferred scenario and reasons for choosing the final Plan;
7. Measures to monitor significant environmental effects of the implementation of the adopted Plan; and
8. Addendum to the Environmental Report.

2 SUMMARY OF KEY FACTS

Title of Plan:	**National Waste Management Plan for a Circular Economy 2024 – 2030**
Purpose of Plan:	The Plan sets out the objectives and recommendations to be pursued over the next six years and beyond to improve the management of waste in Ireland and seeks to influence sustainable consumption and prevent the generation of waste, improve the capture of materials to optimise circularity and enable compliance with policy and legislation.
Competent Authority:	The Regional Waste Management Planning Offices, under the auspices of the County and City Management Association National Oversight Group.
Period Covered:	A National Waste Management Plan is required to be prepared and reviewed every six years under Section 22 of the Waste Management Act 1996, as amended. This Plan covers the period 2024 to 2030.
Area Covered:	The Plan will apply to all wastes prevented, generated and managed in Ireland.
Nature and Content of the Plan:	The core policies of the Plan are: 1. Oversee waste activities and litter control measures to ensure they do not pose a risk to the environment and human health and make a positive contribution to circularity; 2. Support the delivery of the measures and actions prescribed in the Climate Action Plan to contribute to achieving the national climate targets; 3. Implement and enforce EU and national waste policies and plans and translate into actions that enable the transition to a circular economy and the achievement of national recycling targets; 4. Collaborate with key partners and stakeholders on the delivery of core and targeted policies and priority actions to ensure appropriate financial and human resources are provided; 5. Create better understanding, through polls, surveys and research and then influence and encourage informed behavioural improvements in business and households through Local Authority and external networks and coordinated multi-agency awareness campaigns, including mywaste.ie, to prevent waste and manage resources to increase the value and circular potential of materials; 6. Ensure that the planning, regulatory and enforcement functions of the local government sector are appropriately aligned, coordinated and supported by central government to respond to existing challenges; 7. Encourage and support further research and innovation in the transition to a circular economy across the waste sector with a particular focus on the management of non kerbside waste streams; 8. Monitor the provision of waste infrastructure to ensure that there is adequate appropriate infrastructure in place and where deficits exist to support solutions in line with the waste hierarchy, self-sufficiency, proximity and circularity; 9. Support the National Strategic Objectives, Sectoral Strategies and Strategic Investment Priorities set out in the National Development Plan 2021-2030; 10. Reinforce the consistent application of Green Public Procurement criteria in local authority contracts to ensure that public spending is aligned with the policies of this Plan and the Green Public Procurement strategy and Action Plan;

Title of Plan:	**National Waste Management Plan for a Circular Economy 2024 – 2030**
Nature and Content of the Plan:	11. Assist all stakeholders to ensure the availability of timely quality data and projections to inform policy development and to enable the monitoring of progress against policies and targets; 12. The Plan recognises and supports the need for nationally and regionally important waste infrastructure, including infrastructure of the type, scale and proximity essential to maintain waste services and infrastructure that contributes to the ambition and policies of the Plan; and 13. The Plan seeks to attract funding, including from relevant taxes and economic instruments to support for initiatives and projects that underpin business continuity, core and targeted policies and priority actions. The Plan articulates a set of targeted policies and priority actions to be implemented by the Local Government Sector, the Environmental Protection Agency, the Department of the Environment, Climate and Communications as well as other agencies and authorities.
Date Plan Came into Effect:	This Plan was made on the 21st February 2024.
Main Contact:	**Eastern-Midlands Regional Waste Office** C/O Dublin City Council, Motor Tax Office, Floor 2, Blackhall Place, Queens Street, Smithfield, Dublin 7. **Connaught-Ulster Regional Waste Office** Second Floor, Mayo County Council, Aras an Chontae, The Mall, Castlebar, Co. Mayo. **Southern Waste Regional Management Office** Dooradoyle Road, Dooradoyle, Limerick.

3 SUMMARY OF THE SEA PROCESS

3.1 Introduction

The Plan has been subject to a process of SEA, as required under the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations S.I. No. 435 of 2004, as amended by S.I. No. 200 of 2011. This has included the key steps described in the following sections.

3.2 Screening

Screening of the Plan for SEA was undertaken in December 2021. It was determined that SEA was required for the Plan for the following reasons:

- The Plan is subject to preparation and adoption by an authority;
- It is required by national legislative provision;
- The Plan addresses waste management issues;
- It is intended that the Plan could set the framework for future development consent of projects listed in the EIA Directive;
- The Plan was identified as having potential for likely significant effects on one or more European Sites and as such has undergone Appropriate Assessment under Article 6(3) of the EU Habitats Directive [92/43/EEC]; and
- The previous iterations of the waste management plans were subject to SEA and, in this regard, it has been concluded that SEA is required for the Plan under S.I. 435 of 2004, as amended.

3.3 Scoping

Scoping was carried out to establish the level of detail appropriate for the SEA Environmental Report. An SEA Scoping Report was prepared and sent to the statutory consultees in November 2021 to be used as the basis for statutory consultations. The statutory consultations were undertaken with the environmental authorities for SEA in Ireland as well as informal transboundary consultation with the relevant authorities in Northern Ireland. The consultees contacted are listed in **Table 3-1.**

3.4 Environmental Assessment and Environmental Report

The preparation of an Environmental Report on the likely significant effects on the environment of implementation of the Plan included consideration of:

- The relevant aspects of the current state of the environment and its evolution in the absence of the Plan;
- The environmental characteristics of areas likely to be significantly affected and existing environmental problems relevant to the Plan;
- Links between the Plan and other relevant strategies, policies, plans, programmes and environmental protection objectives;
- The likely significant effects of the Plan on the environment (both positive and negative);

Table 3-1: Consultees engaged in SEA Scoping Consultation

Ireland
Environmental Protection Agency (EPA)
Minister for Housing, Local Government and Heritage
Department of Environment, Climate and Communications (DECC)
Department of Agriculture, Food, and the Marine (DAFM)
Transboundary
Department of Agriculture, Environment and Rural Affairs (DAERA) [Northern Ireland]

- Measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment;
- An outline of the reasons for selecting the alternatives chosen; and
- The measures envisaged concerning monitoring.

3.4.1 Summary of Assessment

The approach used for the assessment in the SEA was an 'objectives-led assessment' whereby each of the Plan policies were tested against defined SEA Strategic Environmental Objectives (as listed in Table 3-2) which covered all SEA environmental topics under the relevant SEA legislation. These objectives have been updated on foot of feedback received during consultation.

Table 3-2: Strategic Environmental Objective(s)

Related to SEA Topic(s)	Strategic Environmental Objective(s)	To what extent will the draft Plan…	Relevant UN Sustainable Development Goal(s)
Population and Human Health (PHH)	**Objective 1:** To protect human health from waste management activity.	• Reduce the generation of waste. • Promote better segregation of waste in household and non-household settings. • Promote awareness and knowledge of waste issues. • Support the protection of human health from waste treatment. • Support and enable appropriate authorised collection platforms.	 **GOAL 3:** Ensure healthy lives and promote well-being for all at all ages.  **GOAL 12:** Ensure sustainable consumption and production patterns.
Biodiversity, Flora, and Fauna (BFF)	**Objective 2:** Preserve, protect, maintain, and where appropriate restore and enhance the terrestrial, aquatic and soil biodiversity, particularly EU designated sites and protected species (including transboundary considerations) and integrate biodiversity considerations wherever possible into the Plan.	• Support the protection of biodiversity from waste management activities. • Support the regulatory processes for licensed facilities. • Ensure that waste infrastructure does not impact on habitats and species.	 **GOAL 15:** Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
Land and Soil (LS)	Objective 3(a): Safeguard soil quality and quantity (including geo-heritage sites) from waste management. Objective 3(b): Reduce and eliminate soil contamination.	• Protect the national soil resource from waste management activities. • Remediate historic landfills and other legacy sites where waste poses a risk to the environment. • Support increased remediation of contaminated soil within Ireland.	 **GOAL 15:** Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Table 3-2: Strategic Environmental Objective(s) (Cont'd)

Related to SEA Topic(s)	Strategic Environmental Objective(s)	To what extent will the draft Plan…	Relevant UN Sustainable Development Goal(s)
Water (W)	**Objective 4:** Protect and restore water quality (surface waters, groundwaters and marine waters) from waste management activities (including transboundary considerations).	• Support the protection of water quality from waste management activities. • Support the regulatory processes for licensed facilities. • Protect marine waters from waste management activities and the transport of wastes.	 **GOAL 6:** Ensure availability and sustainable management of water and sanitation for all.  **GOAL 14:** Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.
Air Quality (AQ)	**Objective 5(a):** Protect air quality, including transboundary considerations, from waste and/ or reduce air pollution or limit to levels that do not damage the natural environment or human health. **Objective 5(b):** Maintain and promote continuing improvement in air quality through the reduction of emissions, including transboundary considerations.	• Support the proximity principle. • Support reductions in air and noise emissions from waste management activities. • Support the regulatory processes for licensed facilities.	 **GOAL 11:** Make cities and human settlements inclusive, safe, resilient, and sustainable.
Climatic Factors (CF)	**Objective 6:** Minimise emissions of greenhouse gases associated with waste management (including disposal, recovery and transport).	• Support the proximity principle. • Support reductions in GHG emissions from waste management activities	 **GOAL 15:** Take urgent action to combat climate change and its impacts.

Table 3-2: Strategic Environmental Objective(s) (Cont'd)

Related to SEA Topic(s)	Strategic Environmental Objective(s)	To what extent will the draft Plan…	Relevant UN Sustainable Development Goal(s)
Material Assets (MA)	**Objective 7(a):** Prevent and minimise the generation of waste. **Objective 7(b):** Optimise use of existing infrastructure/ built environment, raw materials, and energy. **Objective 7(c):** Minimise the export of waste for treatment and/ or disposal and reduce emissions due to transportation. **Objective 7(d):** Support and promote the use of waste as a resource.	• Promote and contribute to implementing circular economy principles. • Reduce and ultimately prevent generation of waste. • Promote resource efficiency. • Support self-sufficiency in waste management. • Support the regulatory processes for licensed facilities. • Promote better management of waste in household and commercial settings. • Support and enable appropriate collection platforms.	 **GOAL 8:** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.  **GOAL 9:** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.  **GOAL 11:** Make cities and human settlements inclusive, safe, resilient, and sustainable. **GOAL 12:** Ensure sustainable consumption and production patterns.
Cultural Heritage (CH)	**Objective 8:** Protect places, features, buildings, and landscapes of cultural, historical archaeological or architectural heritage.	• More appropriately dealt with at lower planning tiers.	 **GOAL 11:** Make cities and human settlements inclusive, safe, resilient, and sustainable.
Landscape (LandS)	**Objective 9:** Protect and maintain the national landscape character, including geoheritage.	• More appropriately dealt with at lower planning tiers.	

The Plan has been prepared to include specific targets, policies and actions to enable the waste and resource sector to meet the circular challenge. In addition to the transition to a circular economy, the Plan also sets the policy base for the effective management of waste to ensure that the generation, collection and treatment of material streams are optimised to enable recycling, comply with all regulations and are undertaken in a manner that does not cause adverse impact to the environment. Many of the recommendations and actions under consideration will have direct positive impacts for population and human health and material assets in particular as a result.

However, a number of the sections of the Plan have the potential to impact on other environmental receptors directly and indirectly through policies and actions included within the Plan. The assessment of the policies and actions from the Plan that will require mitigation is summarised in **Table 3-3.**

Table 3-3: Structure of the Plan and details on sections requiring SEA Mitigation

Volume	Part	Chapter	Summary of Content	Mitigation
Executive Summary	-	-	High level summary of the scope, content and ambition of the Plan.	No
Volume I: Current Situation and Challenges	Part A: The Rules	Chapter 2: Regulatory Environment	Key EU and national policy and legislative framework and the integration of the Plan with other plans and programmes	No
		Chapter 3: Planning and Circular Economy Framework	Outline of evolving Circular Economy policy and where this Plan sits within this framework.	No
		Chapter 4: National Setting	Details of the national profile and the key drivers for waste including population, economic activity, the waste market, etc.	No
	Part B: The Landscape	Chapter 5: Material Streams	Summary of the recent trends in the Circular Economy sector as well generation and treatment trends for all waste streams including Municipal, Food, Packaging/ Plastics, Textiles, C&D, WEEE, Batteries, ELVs, Tyres, Hazardous and Illegal waste.	No
		Chapter 6: Infrastructure	Overview of the existing capacity for Collection, Reuse, Repair, Pre-treatment, Recycling, Thermal Treatment, Landfill, End of Waste, Historic Landfills and Exports.	No
		Chapter 7: Projected Waste Generation	Identification of key drivers for the largest waste streams (MSW and C&D) and use of these drivers to predict future generation rates in the absence of interventions.	No
	Part C: The Resources	Chapter 8: Organisational Aspects	Identification of the key stakeholders in the LGS, EPA, DECC, Industry, Compliance Schemes and the collaboration and interactions of these groups.	No
		Chapter 9: Finance	Summary of the existing levels of investment in waste management in the public sector as well as an analysis of income streams such as the landfill levy, etc.	No

Table 3-3: Structure of the Plan and details on sections requiring SEA Mitigation (Cont'd)

Volume	Part	Chapter	Summary of Content	Mitigation
Volume II: Policy Responses and Actions	Part A: Core Positions Part A: The Rules	Chapter 1: Circularity	This Plan commits to the national transition to a circular economy through increasing the capture of high quality materials to maximise circular potential and to promote the use of secondary materials.	No
		Chapter 2: Ambition	The ambition of this Plan is to both build on the progress from the RWMP but also to drive the transition to a more circular economy for the sector and to strengthen national capacity.	No
		Chapter 3: Targets	Presents the national targets devised for this Plan as well as the current and next generation targets imposed by the various EU legislative regimes.	No
	Part B: Core Policies	Chapter 4: Core Policies	Defines the Core Policies of the Plan as the high-level overall position embracing general goals and acceptable procedures.	Yes
	Part C: Focus Areas	Chapter 5: Operational Focus Areas	Provides the list of Targeted Policies and Priority Actions for each of the identified Operational Focus Areas.	Yes
		Chapter 6: Material Stream Focus Areas	Provides the list of Targeted Policies and Priority Actions for each of the identified Material Stream Focus Areas.	Yes
		Chapter 7: Infrastructure Focus Areas	Provides the list of Targeted Policies and Priority Actions for each of the identified Infrastructure Focus Areas.	Yes
Volume III: Delivery Roadmap	Part A: Regulatory, Infrastructure and Climate Impact	Chapter 1: Projections and Interventions	This chapter provides an overview of projected waste generation for MSW and C&D waste and the impact of policy interventions on waste arising.	No
		Chapter 2: Capacities and Deficits	This chapter examines the capacity of the waste market to collect, recycle, recover and dispose of materials and identifies deficits and key deliverables to address the shortfalls.	No
		Chapter 3: Other Infrastructural Requirements	This chapter examines other infrastructure priorities such as nationally important infrastructure, the waste facility siting guidance and contingency infrastructure.	No

Table 3-3: Structure of the Plan and details on sections requiring SEA Mitigation (Cont'd)

Volume	Part	Chapter	Summary of Content	Mitigation
Volume III: Delivery Roadmap	Part B: Organisation, Engagement and Resources	Chapter 4: Organisation	This chapter presents recommended organisational arrangements that respond to the challenge of implementing a national plan in collaboration with key partners and stakeholders.	No
		Chapter 5: Engagement	This chapter presents proposals to support continued successful engagement with all key stakeholders building on the engagement that has informed the development of this Plan.	No
		Chapter 6: Resources	This chapter sets out resources needed to maintain business continuity as well as the additional resources required to accelerate the transition to a circular economy.	No
	Part C: Implementation, Monitoring and Oversight	Chapter 7: Implementation Strategy	Provides the proposed methodology for local authority dynamic priority setting, implementation through annual work plans and procedures for wider stakeholder engagement.	No
		Chapter 8: Monitoring	Monitoring outlines the planned oversight and monitoring regimes to be employed to evaluate compliance with target and wider performance over the Plan period.	No
		Chapter 9: Oversight	This chapter outlines the proposed national and regional oversight arrangement to monitor the implementation of the Plan.	No
Volume IV: Appendices of Supporting Documentation	-	-	• Glossary and Abbreviations • Section 22 of the Waste Management Act • 2021 Evaluation of the Regional Waste Management Plans • Pre-Draft Submissions Report • List of Waste Legislation • Inventory of Local Authority Authorised Waste Sites • Inventory of EPA Authorised Waste Sites • Report on Historic Landfills • Siting Guidance for Waste Facilities • Index of Waste Plan Policies • Index of Key Deliverables • Consultation Report	No

3.4.2 Statutory Consultation on the draft Plan

The Plan was published for consultation on the 3rd May to the 5th July 2023 alongside the Strategic Environmental Assessment (SEA) Environmental Report and the Appropriate Assessment (AA) Natura Impact Statement (NIS). All documents were available for inspection and download online. See further details in **Section 5.3.**

Statutory consultations were also undertaken with the environmental authorities for SEA in Ireland. In addition, informal transboundary consultation was undertaken with other States where waste from Ireland is exported, imported or managed including Northern Ireland, Scotland, Wales, England, Germany, Belgium, France, The Netherlands, Denmark, and Sweden. The consultees contacted are listed in **Table 3-4.**

Table 3-4: Consultees engaged during statutory SEA Consultation

Ireland
Environmental Protection Agency (EPA)
Minister for Housing, Local Government and Heritage
Department of Environment, Climate and Communications (DECC)
Department of Agriculture, Food, and the Marine (DAFM)
Transboundary
Department of Agriculture, Environment and Rural Affairs (DAERA) [Northern Ireland]
Scottish Environmental Protection Agency, Scottish National Heritage and Historic Environment Scotland [Scotland]
Welsh Government, Natural Resources Wales and Cadw [Wales]
Environment Agency, Natural England, and Historic England [England]
Vlaamse Milieumaatschappij (VMM)/ Flanders Environment Agency and Service Public de Wallonie, Direction Générale Opérationnelle Agriculture, Ressources naturelles et Environnement / Wallonia Operational Directorate-General for Agriculture, Natural Resources, and the Environment (DGARNE) [Belgium]
Planbureau voor de Leefomgeving (PBL), National Institute for Public Health and the Environment (RIVM) and Rijkswaterstaat (RWS) [The Netherlands]
Naturstyrelsen / Danish Nature Agency [Denmark]
Umweltbundesamt (UBA) / German Environment Agency [Germany]
L'Agence de la transition écologique, anciennement Agence de l'environnement et de la maîtrise de l'énergie (ADEME) /Agency of Ecological Transition, formerly Environment Agency and Energy Management [France]
Swedish Environmental Protection Agency

3.5 SEA Statement

In accordance with Article 16 of S.I. 435 of 2004, as amended, the Competent Authority is required to prepare a statement summarising:

- How environmental considerations have been integrated into the plan or programmes, or modification to a plan or programme;
- How (i) the environmental report, prepared pursuant to Article 12, (ii) submissions and observations made to the planning authority in response to a notice under Article 13 and (iii) any consultations under Article 14 have been taken into account during the preparation of the plan or programme;
- The reasons for choosing the plan or programme, in light of other reasonable alternatives dealt with; and
- The measures decided upon to monitor, in accordance with Article 17, the significant environmental effects of implementation of the plan or programme.

The main purpose of this SEA Statement is to provide information on the decision-making process for the Plan in order to illustrate how decisions were taken, making the process more transparent. In so doing, the SEA Statement records how the recommendations of both the Environmental Report and the Natura Impact Statement, as well as the views of the statutory consultees and other submissions received during consultation have influenced the preparation of the final Plan. The SEA Statement also provides information on the arrangements put in place for monitoring and mitigation. The SEA Statement will be available to the public, along with the NIS as **Volume V** of the adopted Plan.

3.6 Appropriate Assessment

In addition to the SEA, there is a requirement under the EU Habitats Directive (92/43/EEC) to carry out Appropriate Assessment (AA). The requirement for an assessment derives from Article 6 of the Directive, and in particular Article 6(3) which requires that:

> *'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.'*

In recognition of this, an AA Screening was undertaken, in parallel with the SEA process. It was determined that AA was required, and an NIS was therefore prepared to inform the AA.

3.7 Adoption of this Plan

The Plan was made on the 15th February 2024 and covers the period 2024 to 2030.

4 INFLUENCE OF THE SEA PROCESS ON THE PLAN

4.1 Integration of the SEA process

The SEA and the AA processes have been undertaken in parallel to the preparation of the Plan. From the outset, considerations of the environmental consequences of implementing the Plan (and its reasonable alternatives) have been taken into account. This included:

- Attendance at an SEA Scoping workshop to present the SEA / AA processes and highlight key environmental issues;
- Iterative discussion and development of the alternatives to be considered;
- Advice and guidance on early versions of the proposed action base to highlight environmental risks;
- Evolution of Plan policies and actions;
- Recommendation of mitigation measures to address the potential impacts arising from the draft policies and actions and subsequent detailed discussions on how to integrate this mitigation effectively;
- Attendance at an SEA monitoring workshop to discuss realistic and implementable monitoring actions; and
- Discussions on integration of stakeholder observations and issues raised through statutory public consultation on the draft Plan.

Table 4-1 shows how environmental considerations and the input of the SEA and AA have been taken into account in the final Plan.

Table 4-1: How Environmental Considerations Have Been Taken into Account in the Plan

Environmental Consideration	Integration into the Plan Process
Early discussion on policy formation	The SEA / AA teams engaged directly with the Plan team at an early stage to create awareness and discuss issues on key environmental constraints relating to Plan alternatives and the policy and action framework.
Identification of environmental constraints	The SEA team prepared baseline information on environmental conditions with the focus on SEA environmental topics including population, human health, biodiversity, flora and fauna, water, climate, air, land and soil, landscape, cultural heritage, material assets and water. This information was used to focus the SEA objectives, inform the alternatives discussions and the assessment, and assess positive and negative impacts associated with the implementation of the proposed Plan framework. GIS analysis and an Environmental Sensitivity Mapping (ESM) exercise were also undertaken to inform the baseline at a strategic level.
Assessment of alternatives	The environmental baseline and objectives were used to identify key sensitivities and inform development and assessment of the alternatives. The SEA team and the Plan team liaised on possible alternatives during preparation of the SEA scoping document and subsequently through meetings and workshops.
Recommendation of mitigation measures to address impacts on the wider environment	Mitigation measures were proposed to address negative environmental impacts identified during the assessment process. These included amendments to the wording of recommendations/actions in the Plan and recommendations for changes/ new actions to reflect protection of the environment.

Table 4-1: How Environmental Considerations Have Been Taken into Account in the Plan (Cont'd)

Environmental Consideration	Integration into the Plan Process
Required environmental monitoring programme	A monitoring programme was presented in the SEA Environmental Report. This has been amended following statutory public consultation and further discussion with the Plan team and will help facilitate the ongoing monitoring of the implementation of the Plan.
Consultation	Statutory consultation was undertaken with the environmental authorities for SEA in Ireland in relation to the SEA Environmental Report. Informal transboundary consultation was also undertaken at that time with Northern Ireland, England, Wales, Scotland, Belgium, the Netherlands, Denmark, Germany, Sweden, and France. Issues raised were used to inform the overall scope and context of the environmental assessment.

4.2 Recommended Mitigation Measures and how they have been addressed in the Final Plan

As part of the assessment of the draft Plan, both the SEA Environmental Report and the NIS specifically suggested mitigation measures to offset negative impacts identified. These included general measures such as additional text clarifying obligations in relation to protection of European Sites, suggested inclusion of training as well as specific recommendations and suggestions on how to improve the effectiveness of the Plan going forward. **Table 4-2** and **Table 4-3** present the mitigation measures from the SEA and AA processes carried out on the Plan and clarify how they have influenced the final Plan as adopted.

Note that all SEA and AA mitigation measures are fully embedded into the Plan through **Appendix 12 of Volume IV.**

Table 4-2: SEA Mitigation Measures in the Environmental Report

Draft Plan Ref.	Proposed Mitigation	How these have been addressed in the Final Plan
Core Policies	• CP13: An economic study/cost-benefit analysis is recommended to examine the economic viability of the target policies and priority actions proposed in the Plan. Emerging issues such as trends in healthcare risk waste generation and management and recycling needs for certain waste streams should be considered to inform any capacity/ infrastructure needs.	Key Deliverable 45 commits the Local Government Sector (LGS) to undertake an annual evaluation of the impact of annual work plans on circularity and climate impact. This action will examine the viability (policy, technical and economic) of the target policies and priority actions proposed in the Plan.
Focus Area One: Commercial Waste	• Priority Action 1.2: The use of Plan Targets as Key Performance Indicators should be considered in the annual reporting to monitor data capture. • Priority Action 1.5: It is recommended that Local Authorities continue to actively engage with the RMCEI process.	A series of metrics to support tracking the ambition, goal and national targets of the Plan are included in Table 8.1 of Volume III. Priority Actions PA1.5 and PA2.5 of Volume II include specific reference to commitment to the RMCEI process.
Focus Area Four: Collection Systems	• Target Policy 4.4: Developing an integrated, consolidated and coordinated public waste collection infrastructure network needs to be undertaken in line with all regulatory (planning, licensing, permitting) procedures including the application of EIA and AA processes. Any such aspect of this collection infrastructure the meets the relevant thresholds must apply these procedures.	This requirement is reflected in Priority Action PA4.5 of Volume II which requires that the provision of publicly accessible waste infrastructure is properly regulated.

Table 4-2: SEA Mitigation Measures in the Environmental Report (Cont'd)

Draft Plan Ref.	Proposed Mitigation	How these have been addressed in the Final Plan
Focus Area Seven: Single Use Plastic Waste	• Priority Action 7.1 and 7.3: The use of Key Performance Indicators should be considered in the annual reporting to track the monitoring of the application of these new measures. • Priority Action 7.4: The key findings, including success stories and limitations should be published to improve future studies and trials which would lead to a nationwide roll-out.	A series of metrics to support tracking the ambition, goal and national targets of the Plan are included in Table 8.1 of Volume III. Key Deliverable 44 commits the LGS Regulation and Enforcement Pillar to produce an annual work plan which will include ongoing review and documentation of success stories and limitations for enforcement.
Focus Area Eight: Construction and Demolition	• Priority Action 8.1: It is recommended that training on waste and circular materials is developed and applied in any training provided to local authority staff on the implementation of Green Public Procurement criteria for local authority construction and demolition projects and award criteria for such contracts are suitably favoured to operators proposing the use of secondary raw materials. • Target Policy 8.3, Priority Action 8.3, and Priority Action 8.5: Local authorities must apply the appropriate resources and training should be provided to local authority planners and enforcement officers on the application of the EPA Best Practice Guidelines for the preparation of Resource & Waste Management Plans. • Priority Action 8.2: Training should be provided to relevant local authority engaged in the preparation of Resource & Waste Management Plans for local authority developments.	In general terms, Core Policy CP6 requires the appropriate organisational structures at the LGS to be suitable resourced and trained to implement this Plan which includes wider training such as Green Public Procurement, EPA national decisions on Regulation 27/28 and EPA Best Practice Guidelines. More specifically to PA8.1, Core Policy CP10 commits the LGS to the consistent application of Green Public Procurement criteria which will be delivered through enhanced training and monitoring.
Focus Area Ten: Hazardous Waste	• General Mitigation: The results of the campaigns and surveys should be documented to the public. This should document the impact hazardous waste has on society and ecosystems and why waste prevention and proper management is vital to environment and human health. • Priority Action 10.1: Focus groups should be considered to demonstrate the potential effectiveness of the awareness campaigns; the findings and feedback could further aid future campaigns. • Priority Action 10.3: The findings of the survey and subsequent initiatives and measures should be documented. • Priority Action 10.3: Reviews should be undertaken on a scheduled basis to assess the effectiveness of the enforcement regime.	In relation to all wastes (including hazardous waste), Key Deliverable 28 requires the LGS, DECC and the EPA to facilitate an annual national forum on waste and the circular economy to maintain collaborative engagement. As part of this collaboration, Key Deliverable 41 commits the strategic partners (LGS, DECC and the EPA) to producing a strategic multi-annual work plan to ensure alignment of objectives, priorities and supports. This will include review of effectiveness of awareness campaigns and the requirement for retention or revision of same in subsequent work plans. These findings will be documented in evaluations of the work plans undertaken by the LGS under Key Deliverable 45.
Focus Area Eleven: Infrastructure Regulatory	• Priority Action 11.3: The local authority shall ensure that any facility authorised for storage of waste from road maintenance and other local authority construction projects shall be fully consented through both planning and licensing/permitting and that these consents have been subject to EIA and AA as appropriate prior to any such use for these facilities.	Priority Action 11.1, in relation to general infrastructure, has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
Focus Area Twelve: Reuse / Repair Infrastructure	• Priority Action 12.2: The local authority will ensure that facilitation of reuse and repair services at designated Civic Amenity Sites complies with the relevant planning and permitting regulations and the EIA and AA processes as applicable. • Target Policy 12.4 and Priority Action 12.4: The local authority will ensure that any support offered to the development of circular activities and secondary material markets will be contingent on these activities being compliant with all regulatory requirements. • Priority Action 12.5: Any authorisation regime developed for reuse and repair activities must have due regard for the application of EIA and AA processes as appropriate.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.

Table 4-2: SEA Mitigation Measures in the Environmental Report (Cont'd)

Draft Plan Ref.	Proposed Mitigation	How these have been addressed in the Final Plan
Focus Area Thirteen: Recycling Infrastructure	• Target Policy 13.1, 13.2, 13.4 and 13.5: The local authority will ensure that any support offered to these operations will be contingent on these activities being compliant with all regulatory requirements.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
Focus Area Fourteen: Recovery Infrastructure	• Target Policy 14.1, 14.2, 14.4 and 14.5: The local authority will ensure that any support offered to these operations will be contingent on these activities being compliant with all regulatory requirements. • Target Policy 14.2: As part of the annual review and reporting, the RWMPO will track national rates of reuse, repair, and recycling to allow for the predictions of future residual waste generation and the capacity need for any additional thermal treatment. The scale of development mandated by this policy shall be revised accordingly to ensure that any new recovery infrastructure does not act as a barrier to achieving the Plan targets for 0% waste growth as well as reuse, repair, and recycling.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate. A series of metrics to support tracking national rates of reuse, repair and recycling are included in Table 8.1 of Volume III.
Focus Area Fifteen: Disposal Infrastructure	• Target Policy 15.1: As part of the annual review and reporting, the RWMPO will track national rates of reuse, repair, and recycling to allow for the predictions of future residual waste generation and the need for landfill disposal capacity with the aim of reducing demand to meet the EU target. • Target Policy 15.2: The local authority shall ensure that any facility identified for contingency capacity shall be fully consented through both planning and licensing/ permitting and that these consents have been subject to EIA and AA as appropriate prior to any such use for this facility. • Target Policy 15.4 and Target Policy 15.5: It is recommended that the local authorities develop a biodiversity strategy specifically to inform any appropriate alternative land uses at authorised inactive landfills or remediated historic landfills to maximise the opportunities for habitat development at these sites.	A series of metrics to support tracking national rates of reuse, repair, and recycling are included in Table 8.1 of Volume III. In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate. In relation to Target Policy 15.4 and Target Policy 15.5, it is noted that local authorities are currently required to prepare Local Biodiversity Action Plans which include for provision of policies on authorised inactive landfills or remediated historic landfills. Such policies would be supported in general through Core Policy CP1.

Draft Plan Ref.	Proposed Mitigation	How these have been addressed in the Final Plan
Focus Area Sixteen: Hazardous Infrastructure	• Target Policy 16.1: The local authority will ensure that any support offered to these operations will be contingent on these activities being compliant with all regulatory requirements. • Priority Action 16.2: Any establishment of infrastructure to facilitate collections for household and small-scale hazardous waste through Civic Amenity Sites should be subject to the relevant planning and waste regulations or, if below the relevant thresholds, subject to a local risk assessment to mitigate any pathways from these materials to the environment.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.

Table 4-3: AA Mitigation Measures in the Natura Impact Statement

Draft Plan Ref.	Proposed Mitigation	How these have been addressed in the Final Plan
CP2	• Any development of new infrastructure, or upgrading of existing infrastructure, arising from the measures and actions prescribed in the CAP must be considered with regards to the Habitats Directive and be subject to AA.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
CP3	• Projects/plans need to be subject to AA process. Legislative provisions need to align/ reflect the requirements of the EU Habitats Directive.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
CP6	• Ensure that activities are consistent with the requirements of the Habitats Directive and the need for AA of plans/projects. Ensure that staff are suitably trained in the AA process.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
CP12	• Any enhancement of existing waste facilities or development of new infrastructure must be subject to AA.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.

Table 4-3: AA Mitigation Measures in the Natura Impact Statement (Cont'd)

Draft Plan Ref.	Proposed Mitigation	How these have been addressed in the Final Plan
TP2.4	• Any enhancements to existing collection and segregation systems must be considered with regards to the Habitats Directive. Any infrastructural requirements for additional waste streams should be subject to AA.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
PA3.2	• Ensure that all activities arising from the implementation of the review recommendations are consistent with the requirements of the Habitats Directive. Any projects/plans or infrastructural developments that might arise will be cognisant of European Sites and should be subject to AA.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP4.2 TP4.4	• Ensure that collection systems are consistent with the requirements of the Habitats Directive and the protection of European Sites is appropriately taken into consideration. Any enhancement of existing fixed infrastructure or development of new fixed infrastructure arising from this policy should be subject to AA. • Ensure that the network of public waste collection infrastructure is consistent with the siting guidelines presented within the Plan and the requirements of the Habitats Directive and the protection of European Sites is appropriately taken into consideration. Any enhancement of existing fixed infrastructure or development of new fixed infrastructure within this network of waste facilities should be subject to AA.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
PA4.4	• Ensure that all activities arising from the implementation of the review recommendations are consistent with the siting guidelines presented within the Plan and the requirements of the Habitats Directive and legal protection of European Sites. Any projects/plans or infrastructural developments that might arise should be subject to AA.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
PA4.5	• Ensure that the provision of waste infrastructure is consistent with the siting guidelines presented within the Plan and the requirements of the Habitats Directive and the protection of European Sites is appropriately taken into consideration. Any enhancement of existing fixed infrastructure or development of new fixed infrastructure arising from this policy should be subject to AA.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP11.2	• Ensure that the development of new infrastructure or upgrading of existing waste facilities would be cognisant of the Habitats Directive and subject to AA and with the siting guidelines presented within the Plan.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
PA11.3	• Ensure that all sites/facilities proposed for storage of waste from road maintenance and other local authority construction projects have already/will go through the AA process. Any mitigation required should be built into the design process.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
PA11.4	• Ensure that all SID applications are considered with awareness of the requirements of the Habitats Directive and with the siting guidelines presented within the Plan and that specific SID projects are subject to AA.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP12.3	• Any development of infrastructure for materials recovery or other advanced pre-treatment of waste must be considered with regards to the Habitats Directive and protection of European Sites and with the siting guidelines presented within the Plan. The AA process must be carried out for specific projects/activities where relevant.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP12.4	• Ensure that all circular activities are consistent with the requirements of the Habitats Directive and any development of infrastructure associated with these facilities will be cognisant of European Sites and should be subject to AA and with the siting guidelines presented within the Plan.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.

Table 4-3: AA Mitigation Measures in the Natura Impact Statement (Cont'd)

Draft Plan Ref.	Proposed Mitigation	How these have been addressed in the Final Plan
PA12.2	• Choice of civic amenity sites to facilitate collection of items/materials for reuse should be carried out with an awareness of European Sites and the requirements of the Habitats Directive. Any changes or infrastructural upgrades to existing sites to facilitate reuse should be subject to planning and the AA process.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP13.1	• The development of reprocessing and recycling capacity should be carried out with an awareness of European Sites and the requirements of the Habitats Directive. Any development of new waste infrastructure and upgrading of existing infrastructure for reprocessing and recycling purposes should be subject to planning and the AA process and with the siting guidelines presented within the Plan.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP13.2	• The development of plastic management infrastructure should be carried out with an awareness of European Sites and the requirements of the Habitats Directive. Any development of new plastic management infrastructure and upgrading of existing facilities for this purpose should be subject to planning and the AA process and with the siting guidelines presented within the Plan.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP13.3	• The development of recycling capacity and outlets for waste tyres should be carried out with an awareness of European Sites and the requirements of the Habitats Directive. Any development of new waste infrastructure and upgrading of existing infrastructure for the management and recycling of waste tyres should be subject to planning and the AA process and with the siting guidelines presented within the Plan.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP13.5	• Any activities associated with the provision and maintenance of biological treatment capacity must be considered with regards to the Habitats Directive and protection of European Sites and with the siting guidelines presented within the Plan. The AA process must be carried out for specific projects/ activities where relevant.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP14.1	• Any activities associated with the provision and maintenance of recovery capacity must be considered with regards to the Habitats Directive and protection of European Sites and with the siting guidelines presented within the Plan. The AA process must be carried out for specific projects/activities where relevant.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP14.2	• The development of infrastructure to provide thermal recovery capacity for the treatment of non-hazardous wastes must be considered with regards to the Habitats Directive and protection of European Sites and with the siting guidelines presented within the Plan. The AA process must be carried out for specific projects/activities where relevant.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP14.4	• Any activities or development requirements associated with the provision of treatment capacity for non-hazardous C&D waste must be considered with regards to the Habitats Directive and protection of European Sites. The AA process must be carried out for specific projects/activities where relevant.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP14.5	• This policy should be delivered with an awareness of European Sites and the requirements of the Habitats Directive. Any new activities associated with the provision for bottom ash capacity will need to obtain a waste licence from the EPA, which includes a requirement for mandatory AA to be carried out. Any development of new infrastructure or upgrades to existing infrastructure must be subject to planning and the AA process and with the siting guidelines presented within the Plan. Design should ensure no connectivity to EU Sites.	In relation to all waste and circular infrastructure, Priority Action 11.1 has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP15.2	• Any activities associated with the provision of waste treatment contingency capacity must be considered with regards to the Habitats Directive and protection of European Sites and with the siting guidelines presented within the Plan. The AA process must be carried out for specific projects/activities where relevant.	Priority Action 11.1, in relation to all waste and circular infrastructure, has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.

Table 4-3: AA Mitigation Measures in the Natura Impact Statement (Cont'd)

Draft Plan Ref.	Proposed Mitigation	How these have been addressed in the Final Plan
PA15.2	• Any waste facility adopted to provide national contingency capacity will require planning and licencing and should be subject to EIA/ AA during the planning process. Must be fully controlled in line with the landfill directive etc.	Priority Action 11.1, in relation to all waste and circular infrastructure, has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
TP16.1	• Ensure that the Plan secures a requirement that all actions arising with respect to the development of waste infrastructure considers the legal protection of European Sites; including the application of AA processes with respect to any subsequent plans or projects which emerge as part of the development of that infrastructure.	Priority Action 11.1, in relation to all waste and circular infrastructure, has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.
PA16.2	• Ensure that all activities arising with respect to the collection and management of household and small-scale hazardous waste take into account the Habitats Directive and the legal protection of European Sites. Any projects or infrastructural developments required should be subject to AA.	Priority Action 11.1, in relation to all waste and circular infrastructure, has been revised to include a commitment that all new infrastructural developments are in compliance with the wider policy framework of the Plan which includes the requirements for EIA and AA as appropriate.

5 HOW CONSULTATION HAS INFLUENCED THE PLAN

5.1 Introduction

An important facet of the development of the Plan has been comprehensive consultation with relevant agencies and the general public. Public consultation processes held in respect of the Plan included the following:

- Consultation on the SEA Scoping Report – refer to the summary of the process in **Section 3.3** and further details are provided in **Section 5.2**; and
- Public consultation on the draft Plan, the SEA Environmental Report and the associated Natura Impact Statement in 2022 and further details are provided in **Section 5.3.**

Feedback from each of the above consultation events is summarised in this section of the report along with details on how this feedback has influenced the final Plan.

5.2 SEA Scoping Phase

In line with the SEA Directive, specific environmental authorities (statutory consultees) were consulted on the scope and level of detail of the information to be included in the Environmental Report. The potential for transboundary effects was identified early in the process, and as such, contact was initiated at scoping stage with the relevant authorities in Northern Ireland. The issues raised in the submissions from statutory consultees are presented in **Table 5-1.** The responses received on foot of the informal transboundary scoping consultation are summarised in **Table 5-2.**

All comments raised during this consultation have been taken into consideration in the preparation of the draft Plan, the SEA Environmental Report and the Natura Impact Statement (NIS) of the draft Plan.

Table 5-1: Summary of Issues Raised during formal SEA Scoping

Consultee	Summary of Points Raised	How this has been addressed
Environmental Protection Agency (EPA)	• In finalising the Plan and integrating the findings of the SEA into the Plan, the relevant recommendations, key issues, and challenges described in our SOER2020 should be taken into account. • The relevant objectives and policy commitments of the National Planning Framework and the Regional Spatial and Economic Strategies should be aligned with and considered, as appropriate. • The primary focus on waste prevention and reduction over recycling and other forms of waste management, in line with national and European Circular Economy policy should be reflected in the plan. • Furthermore, the Plan should be aligned with national commitments on climate change contained in the Climate Action Plan 2021 and as agreed at the COP26 in Glasgow recently. The Plan should also be aligned with sectoral, regional, and local climate adaptation plans to ensure the Plan will contribute to the transition to a low carbon climate resilient economy and society.	The findings of the SOER2020 have been used to inform the baseline environment in the Environmental Report. The National Planning Framework and the Regional Spatial and Economic Strategies have been reviewed and considered within the policy review in the Environmental Report. Waste prevention is central to the policy framework within the Plan which reflects the waste hierarchy. The commitments for the waste/ circular sector in the Climate Action Plan 2021 and the subsequent Climate Action Plan 2023, have been considered in full and referenced in both the Plan (CP2, 'support the delivery of the measures and actions prescribed in the Climate Action Plan to contribute to achieving the national climate targets') and the Environmental Report.

Table 5-1: Summary of Issues Raised during formal SEA Scoping (Cont'd)

Consultee	Summary of Points Raised	How this has been addressed
Environmental Protection Agency (EPA)	• Need for Research: Innovation is listed as one of the nine objectives for the Plan, but it is not clear on the breadth and scope of this term. There is a need to highlight the many national relevant innovation, research and demonstration programmes that support the circular economy area. • Scope of the SEA – The Plan should clearly set out the scope, remit and implementation related elements of the plan. These will have implications for the SEA, in terms of guiding the level of assessment applicable at the appropriate level for the Plan. Where it is envisaged that measures proposed within the Plan will be implemented via other plans, which themselves have been or will be subject to SEA, this should be explained in the Environmental Report and taken into account in the assessment. • Where specific measures will be implemented directly, further detail should be provided in the Environmental Report and Plan on the relevant environmental assessments to be carried out at the project stage and relevant mitigation measures to be applied, as appropriate. There may be merit in exploring this issue further with the relevant Environmental Authorities during the Plan preparation and SEA processes. • The geographic scope of the SEA should also take account of the waste management issues (transport, storage, recovery, disposal, etc.) associated with Ireland's offshore islands, as well as any interdependencies the sector has with Northern Ireland and other countries. • Integration of SEA and Plan – The integration of the SEA process should reflect the overall objective of the SEA Directive 'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes'. – All recommendations from the SEA and Appropriate Assessment processes, including mitigation measures, should be integrated in the Plan.	Core Policy CP7 supports innovation through 'encourage and support further research and innovation in the transition to a circular economy'. Chapter 2 of the Environmental Report provides an overview of the scope, remit and implementation of the National Waste Management Plan for a Circular Economy. Other Plans and policies of relevance to the Plan and the Environmental Report, are referenced in Chapter 4 of the Environmental Report. An assessment of all Core Policies, Targeted Policies and Priority Actions included in the draft Plan are presented in Chapter 8 of the Environmental Report. Where further relevant environmental assessments are required at the project stage, these are included in any relevant mitigation (Chapter 9) and included in Appendix 12 of Volume IV of the Plan. The geographic scope of the Plan is the Republic of Ireland but dependencies with other jurisdictions for waste exports, treatment capacity, imports (Northern Ireland) and environmental impact are addressed in the Plan and Environmental Report and through transboundary consultation. The requirement to 'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes' is developed through the inclusion of Core Policies CP1 and CP2 which embed these protections at the highest policy level within the Plan.

Consultee	Summary of Points Raised	How this has been addressed
Environmental Protection Agency (EPA)	– EPA recommends that the Plan includes summary tables outlining the key findings of the SEA and linking the significant environmental effects identified to the proposed mitigation measures, monitoring programme and Plan policies/measures. • Monitoring, Review & Reporting – The Plan should include a commitment to implement the environmental monitoring programme and associated reporting. It should include a separate section on 'Monitoring, Review and Reporting', setting out the provisions for monitoring and reporting on the implementation of the Plan and periodic reviews. – There may be merits in aligning the periodic reviews of the Plan with existing cyclical reporting, e.g. Ireland's Environment, River Basin Management Plan, National Planning Framework, etc. – In developing the Plan and SEA, an important consideration will be the selection of appropriate and robust indicators to monitor and assess the implementation and effectiveness of the Plan over its lifetime. This will support the delivery on national policy commitments and targets and monitor the overall environmental performance of the Plan. – The publication of annual, or biennial, implementation/monitoring reports with key indicator data will be important to assess the delivery of the Plan's commitments and for public information and transparency. The EPA would welcome the opportunity to provide input and engage in the indicator selection process as the preparation of the Plan / SEA Environmental Report advances. – EPA recommends aligning Plan implementation monitoring/reporting with the environmental monitoring required under the SEA legislation. Doing so would enable the environmental performance of the Plan to be evaluated and would also provide for increased transparency during implementation.	Furthermore, all SEA and AA mitigation measures are included within the Plan (Appendix 12 of Volume IV) as summary tables. The significant environmental effects identified to the proposed mitigation measures, monitoring programme and Plan policies/measures are included within this Statement which is referenced as Volume V, Part A of the Plan. A monitoring programme is included in Section 8.2 of the Environmental Report and a more specific circular and waste monitoring system is presented in Chapter 8 of Volume II of the Plan. The Plan commits to an annual monitoring cycle to align with availability of national data sets such as those from the EPA on national repair or waste data. These will be central to tracking the success of Plan implementation.

Table 5-1: Summary of Issues Raised during formal SEA Scoping (Cont'd)

Consultee	Summary of Points Raised	How this has been addressed
Environmental Protection Agency (EPA)	– To avoid duplication in data collection, the same indicators should be used for the plan-related and SEA-related monitoring where possible. – Considering the transboundary relevance of the Plan, there is merit in considering the publication of SEA monitoring reports in line with the requirements of the SEA Protocol. – Establishing an Environmental Working Sub-Group would provide for oversight of the environmental monitoring and reporting phase of the Plan. The arrangements in place for the implementation stages of plans such as the Offshore Renewable Energy Development Plan (OREDP) and Food Wise 2025/Food Vision 2030 may be worth considering, as appropriate. • Integration with other key Plans and Programmes: It is recommended to include schematics in the Plan and SEA Environmental Report, showing the links and key inter-relationships with other key relevant national, regional, sectoral, and environmental plans. • Data & Knowledge Gaps: The Plan should identify any significant data and knowledge gaps and include commitments to help address these on a priority basis during the implementation phase of the Plan. This is with a view to strengthening the evidence base for future reviews and iterations of the Plan. • Relevant Plans and/or Programmes – The list of plans and programmes should be reviewed to ensure that none of them relate to revoked legislation or previous versions of plans, e.g. Dangerous Substances Directive, A Resource Opportunity – Waste Management Policy in Ireland (2012). • The following plans, programmes and legislation should also be considered within the scope of the SEA: – National Waste Statistics Summary Report 2019. – Commission implementing decision (EU) 2019/2010 of 12 November 2019 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for waste incineration. – Commission implementing decision (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council.	Chapter 4 of the Environmental Report sets out how the Plan interacts with other key relevant plans and programmes and the relevant environmental protection objectives. Noted in Section 3.3.4 of the Environmental Report. Chapter 4 of the Environmental report sets out how the Plan interacts with other key relevant plans and programmes and the relevant environmental protection objectives. Similarly, Volume I of the Plan established the wider policy framework of relevance. Each of the plans and programmes noted by the EPA have been considered within these documents.

Consultee	Summary of Points Raised	How this has been addressed
Environmental Protection Agency (EPA)	– Single Use Plastics Directive (2019/904). – National regulations relating to licensing of waste facilities and waste collection permits should be included. – Transposing legislation for the Industrial Emissions Directive (in addition Appendix E EPA Waste Licensed sites should include relevant waste sites authorised under the Industrial Emissions legislation). – Waste Management (Tyres and Waste Tyres) Regulations (S.I. 400 of 2017). – CLP (classification, packaging, and labelling) Regulations. – Construction Product Regulation. – Reach Regulations. – European Union (Waste Directive) Regulations 2011-2020. • The EPA Circular Economy Programme 2021 should be referred to as Ireland's Circular Economy Programme 2021. Note that this incorporates the National Waste Prevention Programme, which includes the national food waste prevention programme. • The Plan should also be cognisant of the dynamic nature of guidelines for the waste sector and as such the Plan should incorporate an approach to guidelines for the waste sector that will allow the sector to adapt to evolving guidelines over the lifetime of the Plan. • Resources – New CSO household survey 2021 which includes data on household waste management and levels of reuse: https://www.cso.ie/en/releasesandpublications/ er/hebwr/householdenvironmentalbehaviours-wasteandrecyclingquarter32021/ – EPA licence data sets and PRTR data. – National Waste Collection Permit Office datasets. – Some preliminary waste statistics data for 2020 and 2021 are available on the 'First Look' tab on the EPA National Waste Statistics web resource: https://www.epa.ie/ our-services/monitoring--assessment/waste/national-wastestatistics/first-lookdata/	Reference to the Circular Economy Programme (CEP) has been revised throughout the Plan and the environmental assessments as noted. The dynamic nature of circular policy was a key consideration of this Plan and in the implementation of the Plan as documented in Volume III through annual work plans to facilitate a more flexible implementation to respond to changing priorities. The EPA resource list was noted and welcomed. Direct contact with the EPA waste team was ongoing through the preparation of the Plan to ensure that the latest sets of robust circular, waste and infrastructure data was available to inform the development of the Plan. Other references such as the CSO household survey 2021 were also welcomed and used to inform the Plan.

Table 5-1: Summary of Issues Raised during formal SEA Scoping (Cont'd)

Consultee	Summary of Points Raised	How this has been addressed
Environmental Protection Agency (EPA)	• Any other effects/impacts to be considered in the SEA ER: – Population: The impacts relating to population should also refer to the accessibility and convenience of waste treatment infrastructure, including for example opening hours of Civic Amenity sites and accessibility/proximity of bring centres. The accessibility of waste infrastructure has a significant impact on usage rates, and this should be considered in the planning of waste management infrastructure. – Material Assets: The term 'reuse' is a non-waste activity, therefore the following 'Reuse and repair of waste materials, quality of waste for recycling' should be revised to read as follows: 'Repair of waste materials, quality of waste for recycling'. Reword 'Encourage efficient use of resources and move further up the waste hierarchy' to read as 'Encourage efficient use and reuse of resources and move further up the waste hierarchy'. • SEA Objectives – Consideration should be given to including how improving Ireland's self-sufficiency in treating our waste/expanding indigenous recycling capacity can be achieved. This could also be considered as an objective for inclusion in the Plan itself. – It is not clear on the breadth and scope of 'innovation' identified in the Plan's strategic objectives (Fig. 2.1). There is a need to highlight the many national relevant innovation, research and demonstration programmes that support the circular economy area. – In addition, research and development will play an important role in leading development of novel materials and processes to enable circular production.	The Environmental Report has used broad themes to group large environmental datasets, e.g. human health, soil, air quality, etc. and assigned to each of these themes is at least one high-level Strategic Environmental Objective (SEO) that specifies a desired direction for change, e.g. reduce soil contamination, against which the future impacts of the Plan can be measured and these are listed in Chapter 6 of the Environmental Report. Under the SEO for Material Assets, the support for self-sufficiency in waste management is included as a factor.
Environmental Protection Agency (EPA)	• Approach to Alternatives – Consideration should be given to the use of the Environmental Sensitivity Mapping Webtool in the GIS analysis for exploring alternatives. – The Plan should reflect that the primary focus will be on waste prevention and waste reduction over recycling and other forms of waste management. On that basis the modal alternative 'The promotion of prevention as the principle waste management approach within the Plan' should be revised as follows 'The promotion of prevention as the priority action under the waste hierarchy within the plan'. – It is acknowledged that the Plan will not specify geographically where waste infrastructure should be sited but consideration should be given to the impacts on climate, air quality, biodiversity and land and soil and the interlinkages between those in relation to the proximity principle. – The alternatives should also address the issue of market failure, where capacity is not matching the volume of waste generated (and recyclables). This could be examined, for example, through level of waste treatment in certain waste streams, e.g. composting facilities generating compost to landfill cover grade rather than to a grade suitable for horticultural use. The analysis in relation to the levels of waste treatment should include transport, proximity principle, circular economy, climate, air quality and population.	In line with the requirements of Article 5(1) of the SEA Directive (2001/42/EC) an assessment of reasonable alternatives has been undertaken and is presented in Chapter 7 of the Environmental Report. The commentary from the EPA on this assessment has been taken into consideration in the assessment presented.
Geological Survey Ireland (GSI) (as part of DECC)	• Use of GSI data or maps should be attributed correctly to 'Geological Survey Ireland'. • Geoheritage: – Ideally, the Natural Heritage Areas (NHAs) and County Geological Sites (CGSs) sites should not be damaged or integrity impacted or reduced in any manner due to the National Waste Management Plan. However, this is not always possible, and in these cases appropriate mitigation measures should be put in place to minimize or mitigate potential impacts.	Use of the Geological Survey Ireland mapping resources has been incorporated in the baseline assessment in Chapter 5 of the Environmental Report.

Table 5-1: Summary of Issues Raised during formal SEA Scoping (Cont'd)

Consultee	Summary of Points Raised	How this has been addressed
Geological Survey Ireland (GSI) (as part of DECC)	• Groundwater: – GSI recommend using the groundwater maps on the GSI Map viewer, which should include: wells; drinking water source protection areas; the national map suite - aquifer, groundwater vulnerability, groundwater recharge and subsoil permeability maps. For areas underlain by limestone, please refer to the karst specific data layers (karst features, tracer test database; turlough water levels (gwlevel.ie). • Geological Mapping – GSI recommends the use of their online datasets of bedrock and subsoils geological mapping. • Geohazards – GSI recommend that geohazards be taken into consideration, especially when developing areas where these risks are prevalent, the use of GSI data when doing so is encouraged. GSI has information available on landslides in Ireland via the National Landslide Database and Landslide Susceptibility Map. The data from the national project on Groundwater Flooding may be useful in relation to Flood Risk Assessment (FRA) and management plans. • Geochemistry of soils, surface waters and sediments and Geophysical data – Baseline geochemistry and geophysical data can be used to assess the chemical status of soil and water at a regional scale and to support the assessment of existing or potential impacts of human activity on environmental chemical quality. • Coastal Vulnerability Index – Geological Survey Ireland is undertaking a new coastal vulnerability mapping initiative. Currently the project is being carried out on the east coast and will be rolled out nationally, detailed information and maps are available at https://www.gsi.ie/en-ie/programmes-and-projects/marine-and-coastal-unit/projects/Pages/Coastal-Vulnerability-Index.aspx	
Inland Fisheries Ireland (IFI)	• The SEA Scoping for the National Waste Management Plan for a Circular Economy should fully consider and make appropriate reference throughout to sustainability and should make provision for aquatic biological diversity, the fisheries resource and stakeholder interests. • This SEA scoping document should recognise that protection of the aquatic environment / habitat not only requires the protection of water quality but also necessitates the protection and maintenance of physical habitat, hydrological processes and regimes and broader biological diversity. • It is advocated that the Plan prioritises maintenance and restoration of ecological status in all surface waters with a particular emphasis on high quality Q5 sites and systems which continue to show worrying deteriorations in quality. • IFI advocate application of the precautionary principle with respect to any proposal or development where potential for adverse effects are not fully understood. The burden of proof and associated responsibilities reside with those who argue that a proposed activity is safe and environmentally sustainable. As with any development, IFI advocate that all measures necessary should be taken in the SEA Scoping for the National Waste Management Plan for a Circular Economy process to ensure comprehensive protection of local aquatic ecological integrity, in the first place by complete impact avoidance and as a secondary approach only through mitigation by reduction and remedy. • In addition, all available consideration and support should be afforded to the national 'Blue Dots Catchment Programme' which focuses on the protection or restoration of high ecological status water bodies – a vital component in fisheries ecology, freshwater ecosystems and in Ireland's aquatic biological diversity more generally.	The protection of the aquatic environment / habitat is a key consideration within the Environmental Report. Key policy on biodiversity and water quality is presented in Sections 4.4.6 and 4.4.9 of Chapter 4 of the Environmental Report and the current baseline is presented in Sections 5.3.2 (Biodiversity) and 5.3.4 (Water) of Chapter 5 of the Environmental Report. Furthermore, SEA Objectives 2 and 4 relate to the preservation, protection and restoration of biodiversity and water and set the framework for the environmental assessment. Where any policy or action has the potential to impact adversely on these objectives, mitigation has been applied in line with the precautionary principle.

Table 5-2: Summary of Issues Raised during informal Transboundary SEA Scoping

Consultee	Summary of Points Raised	How this has been addressed
Department of Agriculture, Environment and Rural Affairs Northern Ireland (DAERA)	• For better identification of transboundary issues Natural Environment Division (NED) highlight the following plans/policies for consideration: – The Regional Development Strategy (2035) https://www.infrastructureni.gov.uk/sites/default/files/publications/infrastructure/regional-developmentstrategy-2035.pdf – Strategic Planning Policy Statement for NI (SPPS) https://www.infrastructureni.gov.uk/sites/default/files/publications/infrastructure/SPPS.pdf – A Biodiversity Strategy for Northern Ireland to 2020. https://www.daerani.gov.uk/publications/biodiversity-strategy-northern-ireland-2020-0 – Draft Environment Strategy https://www.daera-ni.gov.uk/consultations/esnipublic-discussion-document – The Draft NI peatland policy: https://www.daera-ni.gov.uk/consultations/nipeatland-strategy-consultation – The Draft Green Growth Strategy for Northern Ireland – Local Development Plans for relevant NI council areas to consider developments close to the border.	The local policy documentation identified by the Natural Environment Division have been reviewed and taken into consideration in the preparation of the Environmental Report.
	• A number of useful information sources that highlight the current state of the environment in Northern Ireland at a regional level and which could be referenced are: – Northern Ireland State of the Environment Reports: https://www.daerani.gov.uk/publications/state-environment-report-2013 – Northern Ireland Environmental Statistics Report 2021: https://www.daerani.gov.uk/publications/northern-ireland-environmental-statistics-report-2021 – Other relevant Natural Heritage information and web-links: Designated Sites: www.daera-ni.gov.uk/landing-pages/protected-areas Regional Landscape Character Map viewer: https://www.daerani.gov.uk/services/regional-landscape-character-areas-map-viewer DAERA have a map browser for NI protected sites and known priority habitat: www.daera-ni.gov.uk/services/natural-environment-map-viewer Our natural environment datasets are available at the link below: www.daerani.gov.uk/articles/download-digital-datasets	The references and resources identified by the Natural Environment Division have been reviewed and taken into consideration in the preparation of the Environmental Report.
	• Cross border river basins require special attention as ecological functionality cross jurisdictional boundaries. The SEA should consider all potential impacts including those which may impact Northern Ireland both directly and indirectly. • Northern Ireland's Draft River Basin Management Plan for the 3rd cycle period which runs from 2021-2027 should also be considered as part of the assessment. • Drinking Water Inspectorate recommend referring to the following documents for the scope of the Plan: – The Private Water Supplies Regulations (Northern Ireland) 2017; – The Drinking Water Directive (98/83/EC); – The Water and Sewerage Servicers (Northern Ireland) Order 2006; – The Water Supply (Water Quality) Regulations (Northern Ireland) 2007; – Drinking Water Directive Recast which may come into effect during the lifetime of the policy statement; – European Union (Drinking Water) Regulations 2014 (S.I. 122 of 2014) (as amended by European Union (Drinking Water) Regulations 2017 (S.I. 464 of 2017)). • DWI recommends that the following potential issues should be added to Table 5.1: – Impacts to Drinking Water Protected Areas; and, – Impacts to catchments and reservoirs used for Drinking Water supply.	Cross border river basins have been assessed as part of the impacts to water quality within the Environmental Report. Northern Ireland's Draft River Basin Management Plan has been reviewed and taken into consideration in the preparation of the Environmental Report. Waters used for the abstraction of drinking water in Northern Ireland have been assessed as part of the impacts to water quality within the Environmental Report.
	• The Climate Change Committee (CCC) recently published its UK Climate Risk Independent Assessment 2021 which identifies the risk and opportunities posed by climate change over the next five years. Consideration should be given to the impacts any of these risks may have on the waste management process when developing planning policy. A summary for Northern Ireland can be found at https://www.ukclimaterisk.org/independent-assessment-ccra3/nationalsummaries/	The relevant aspects of the UK Climate Risk Independent Assessment 2021 to Northern Ireland have been assessed as part of the impacts to water quality within the Environmental Report.
	• DEARA Marine Team suggest that the marine policy documents relevant to Northern Ireland, such as the UK Marine Policy Statement (MPS) 2011, the draft Marine Plan for Northern Ireland 2018 and the Integrated Coastal Zone Management Strategy for Northern Ireland 2006-2026 are considered in the SEA report.	The requirements for the Marine Strategy Framework Directive (MSFD) have been taken into consideration as part of the Environmental Report. This has been used to assess the potential for marine impacts in all marine waters around the island of Ireland.

Table 5-2: Summary of Issues Raised during informal Transboundary SEA Scoping (Cont'd)

Consultee	Summary of Points Raised	How this has been addressed
Department of Agriculture, Environment and Rural Affairs Northern Ireland (DAERA)	• It is noted that the draft National Marine Planning Framework and the EU Maritime Spatial Planning Directive are not listed within the key relevant international, national or regional plans, policies or programmes that should be considered. • It is advised the draft SEA Objectives are revisited to give further consideration to potential impacts on both the marine environment and the transboundary nature of marine effects. • It is suggested that consideration could be given to drawing out further marine effects across the SEA topics and draft SEA Objectives. For example, reference could be made to coastal landscapes or seascapes within the Landscape topic and the corresponding draft SEA Objective 9; and reference to marine biodiversity, designated sites and protected species could be made within draft SEA Objective 2. It is also recommended that Objective 8 would benefit from making reference to include marine cultural heritage. • It is advised consideration should be given to including reference to transboundary marine effects in each of the SEA Environmental objectives, not just Biodiversity, Flora, Fauna, Water and Air Quality. • Importantly, the Marine Strategy Framework Directive (MSFD) descriptors not addressed by the Water Framework Directive, in relation to the achievement of good environmental status, should also be considered for inclusion. This includes issues such as the impacts of marine litter and certain aspects of biodiversity. • Inland Fisheries suggests that the North Atlantic Salmon Conservation Organisation (NASCO), Convention for the Conservation of Salmon in the North Atlantic Implementation Plan for the period 2019 – 2024 should be included as this policy has the potential to impact this species and the goals of this plan.	The Environmental Report assesses the European and nationally designated sites listed in Northern Ireland including the 57 SACs, 17 SPAs, 21 Ramsar and 394 Areas of Special Scientific Interest (ASSIs). Three additional European Sites and one National Site were recently adopted under the Marine Act (Northern Ireland) 2013 which are in close proximity to transboundary waters: Carlingford Marine Proposed SPA (pSPA), East Coast Marine pSPA, North Channel Proposed SAC (pSAC) and Carlingford Marine Conservation Zone (MCZ).
Department of Agriculture, Environment and Rural Affairs Northern Ireland (DAERA)	• Inland Fisheries notes that the Fisheries Act 2020 is included in the list however the Fisheries Act (NI) 1966 has been omitted, we would suggest that this is included to ensure that NI salmon and inland fisheries are fully considered. • Table 7.1: Draft SEA Environmental Objectives, Biodiversity, Flora and Fauna (BFF), whilst this contains Designated sites and Protected species it should also include in relation to Transboundary considerations Priority Species and Priority Habitats as listed by NIEA. • The Loughs Agency is the lead body for provision of advice regarding impacts to salmonid and inland fisheries interests within the catchments of Lough Foyle and Carlingford Lough. Consequently, said agency should also be consulted in relation to this SEA Scoping exercise. • DEARA Marine Team suggest that the marine policy documents relevant to Northern Ireland, such as the UK Marine Policy Statement (MPS) 2011, the draft Marine Plan for Northern Ireland 2018 and the Integrated Coastal Zone Management Strategy for Northern Ireland 2006-2026 are considered in the SEA report.	Some designations in the Republic of Ireland, such as Carlingford Lough SPA and Carlingford Shore SAC, extend into Northern Ireland and as such present potential for transboundary effects.
DfC Historic Environment Division (HED)	• In order to aid with transboundary consideration of potential for impacts in relation to cultural heritage we highlight relevant NI legislation and policies; – The Historic Monuments and Archaeological Objects (NI) Order 1995 – The Planning Act (NI) 2011 – Regional Development Strategy 2035 – The Strategic Planning Policy Statement 2015 • A large number of heritage assets predate the border itself and correlate to other assets in either jurisdiction, or in some cases traverse the border. • HED consider that recognition of transboundary qualities such as the inter-relationships of sites, buildings and places and the potential effects with regard to impacts on their settings and the understanding and experience of them would be desirable and should be recognized in Draft SEA objective 8. • In order to understand the transboundary qualities of heritage and to gauge the potential for impact utilize the Northern Ireland's historic environment digital datasets: https://www.communities-ni.gov.uk/publications/historic-environment-digital-datasets and https://www.communities-ni.gov.uk/services/historic-environment-map-viewer	The local policy documentation identified by the Historic Environment Division have been reviewed and taken into consideration in the preparation of the Environmental Report.

5.3 Issues Raised and Submissions from Statutory Public Consultation

The Plan was published for consultation on the 3rd May to the 5th July 2023 alongside the SEA Environmental Report and the NIS. All documents were available for inspection and download online.

The SEA environmental authorities set out in **Table 3-1** that were consulted during the scoping stage were also contacted as part of the statutory consultation on the draft Plan and environmental documentation. In addition, informal transboundary consultation was undertaken with other States where waste from Ireland is exported, imported or managed including Northern Ireland, Scotland, Wales, England, Germany, Belgium, France, The Netherlands, Denmark and Sweden (refer **Table 3-4** for the list of contacts).

Submissions and observations on the draft Plan and associated environmental documentation were invited to inform the final Plan to be adopted. A total of 381 responses were received from a range of stakeholders and interested parties and the key issues raised may be summarised as follows:

- **Table 5-3** presents the feedback from the statutory environmental authorities for SEA in Ireland; and
- **Table 5-4** presents the feedback from informal transboundary consultation.

All comments raised during this consultation have been taken into consideration in the preparation of the final Plan, the SEA Statement and the Natura Impact Statement (NIS) of the final Plan.

Table 5-3: Summary of Submissions from the Statutory Consultees during Public Consultation

Consultee	Summary of Points Raised	How this has been addressed

Environmental Protection Agency (EPA)	**Governance**
	• The EPA recommends that the organisational arrangements proposed in the Plan recognise existing national governance structures for enforcement activities to ensure current arrangements are preserved and maintained;
	• The EPA calls for a partnership agreement to be established between the Agency and the Local Authority Sector;
	• The EPA recommends that the Plan references the statutory role of the EPA in relation to waste prevention;
	• The EPA recommends that the final Plan identifies the lead organisation responsible for delivery of each action and deliverable.
	Collection and Recycling
	• The EPA recommends the Plan includes strong implementation measures by local authorities including:
	  • Implementation of waste collection permit conditions and waste presentation bye-laws to support urgent rollout of the 3-bin system and;
	  • Delivery of targeted awareness campaigns and enforcement activities to address contamination and improve the separation of food waste and recyclables from residual waste.
		Chapter 4 of Volume III of the Plan outlines the proposed alterations to the organisational structures for implementation of the Plan. These organisational structures reflect the enhanced collaboration between the EPA, DECC and the LGS to deliver on behaviour change, enforcement and all other requirements of the Plan. These arrangements have been agreed with the EPA and DECC in the development of this Plan.
		
		Focus Area 4 on Collection Systems includes a series of policies and actions to enhance existing collection systems. Enforcement of bye-laws (PA4.6) and engagement with collection service providers to enhance coverage (PA4.1) are both included within the Plan.
		In addition, PA5.5 commits the LGS to commit to the targeted enforcement of waste collection permits and waste presentation bye-laws with regard to the provision of food waste recycling bins to non-household and household settings.

Table 5-3: Summary of Submissions from the Statutory Consultees during Public Consultation (Cont'd)

Consultee	Summary of Points Raised	How this has been addressed
Environmental Protection Agency (EPA)	• The EPA recommends the Plan place greater emphasis on the role of industry; **Exports and National Treatment Capacity** • It is recommended that the vulnerability of Ireland's treatment system is addressed in the lifetime of the Plan with the aim to become self-sufficient for the treatment of residual municipal waste; • It is recommended the scope of such a facility includes the acceptance of hazardous waste for disposal and storage of non-hazardous wastes prior to recovery. **Data and Targets** • It is recommended that the final plan use the waste datasets published by EPA for which it has statutory reporting responsibilities; • The EPA recommends that consumption targets in the Plan are extended to focus on measuring total waste for key waste streams including municipal, construction, packaging and WEEE. **Circular Economy Network and Funding** • It is recommended that the Plan recognises the value of this network as a vehicle to align circular economy and waste prevention activities; • The EPA recommends that the Plan identify the need to review the existing funding model to support such activities to agree the most effective structure over the period of the Plan. **Strategic Environmental Assessment (SEA) Integration and Consultation** • The plan should include a clear commitment to integrate and implement the recommendations and mitigation measures identified in the SEA environmental report; • The SEA ER should provide clarity regarding the level of transboundary consultation that has been undertaken in preparing the plan and the associated SEA.	The roles and associated responsibility of private waste industry and compliance schemes are presented throughout the Plan. The vulnerability of Ireland's treatment system is presented within Volume I with associated policy TP15.2 included to ensure the provision of appropriate waste contingency capacity in response to market disruption/ interruption and/or events which pose a risk to the environment and/or health of humans and livestock. The acceptance of hazardous waste for disposal and storage is not expressly excluded or included within this policy. The waste datasets to be employed in the monitoring of the implementation of this Plan are listed in Table 8.1 of Volume III and includes a series of EPA datasets, where appropriate, supplemented with LGS datasets where more relevant. Consumption targets are included in Volume II in the form of targets for municipal and construction wastes. Packaging and WEEE are subject to a range of EU targets and have not been included as consumption targets in the final Plan. Core Policy CP13 addresses funding of the Plan to support initiatives and projects that underpin business continuity, core and targeted policies and priority actions. Further details on the funding model are provided in Chapter 6 of Volume III. All SEA and AA mitigation measures are included within the Plan (Appendix 12 of Volume IV) as summary tables. The significant environmental effects identified requiring the proposed mitigation measures, monitoring programme and Plan policies/measures are included within this Statement which is referenced as Volume V, Part A of the Plan. Informal transboundary consultation was undertaken with other States where waste from Ireland is exported, imported or managed including Northern Ireland, Scotland, Wales, England, Germany, Belgium, France, The Netherlands, Denmark and Sweden. All responses have been taken into account in the development of the final Plan.

Table 5-4: Summary of Key Environmental Issues from Transboundary Consultees during Public Consultation

Consultee	Summary of Points Raised	How this has been addressed
Department of Agriculture, Environment & Rural Affairs Northern Ireland (DAERA)	**Natural Environment Division (NED)** • SEA should consider mobile and migratory species which form part of Northern Irish populations; • No Northern Irish legislation has been included in Section 4.4 and Appendix A, and NED advise that given the potential for transboundary effects relevant Northern Irish legislation, programs and policies should be included; • NED notes within Section 5.3.2.1 that Carlingford Lough SPA and Carlingford Shore SAC extend into Northern Ireland and present a potential for transboundary effects. NED advise that transboundary effects can occur at distance and not always within designated sites; • NED note within Section 5.1 of the SEA report that it is recognised that there is the potential for environmental impacts to Northern Ireland; • Mitigation Table 9.1 differs to Mitigation advised in Chapter 8. • NED should be reconsulted should any changes significantly affect Northern Irish Designated Sites; • SEO objectives in Table 6.1 and Table 9.3 differ. More clarity required on Table 9.3. **Historic Environment Division** • It is advised that the datasets previously supplied will be advantageous in considering potential for transboundary impacts. **Air Quality Comments** • A note on anaerobic digestate was made. **Water Management Unit Comments** • Water Management Unit would prefer a standalone section dealing with potential transboundary issues. • Specific reference to the freshwater environment baseline conditions in Northern Ireland was not made.	Mobile and migratory species have been taken into consideration in both the SEA and AA undertaken. Appendix A of the Environmental Report includes all international and EU plans, programmes, policies and legislation. This is considered representative of the levels of protection available at national levels such as in Northern Ireland. Noted and this potential for transboundary effect has been considered in both the SEA and AA undertaken. The final suite of mitigation is listed in this report in Section 4.2. No significant changes to impact based on this analysis and the updated NIS. A suite of final SEO objectives are included in this report in Section 3.4.1. Noted. Potential for transboundary impacts on water quality and the freshwater environment baseline in Northern Ireland has been considered in the SEA undertaken but this has not been expressly presented as a stand alone analysis.

Department of Agriculture, Environment & Rural Affairs Northern Ireland (DAERA)	**Marine and Fisheries Comment**
	• The report may have benefitted from:
	  • Drawing out effects on protected areas, marine habitats, and species in the shared waters of Carlingford Lough and Lough Foyle.
	  • Highlighting salmonid rivers that run out into Carlingford Lough or Lough Foyle and any shellfish areas within these loughs.
	• It is suggested that consideration be given to drawing out further marine effects across the draft SEA Objectives, where relevant.
		Noted and these aspects have been considered in the preparation of the Environmental Report but have not been expressly documented in the report. No significant impacts have been identified with no requirement for mitigation.
		
		These are included in SEO 4 to 'Protect and restore water quality (surface waters, groundwaters and marine waters) from hazardous waste (including transboundary considerations)'. This is further updated in Table 3.2 to include a broader marine effect with relevance to this Plan.

Scottish Environmental Protection Agency, Scottish National Heritage and Historic Environment Scotland	**NatureScot** The Environmental Report looks comprehensive and, based on the information provided, we consider that the Plan is unlikely to have significant environmental effects. One aspect that could be considered further is in relation to Objective 2 which considers Biodiversity, Flora and Fauna in Table 5. We think it would be beneficial to include enhancement of biodiversity as well as preservation, protection, maintaining and restoring. Given the trajectory of policy landscape, which is focusing on tackling the twin crises, we think it is appropriate to have a more ambitious environmental assessment in this area. **Historic Environment Scotland** Part 1: Republic of Ireland - National Waste Management Plan for a Circular Economy - We can confirm that we have no comments to offer on this plan. Part 2: Environmental Report - We note that no transboundary effects are predicted on the historic environment in Scotland and therefore have no further comments to offer.	Noted. The current wording of SEO 2 includes a commitment to 'preserve, protect, maintain and where appropriate restore the terrestrial, aquatic and soil biodiversity…..' but this is further updated in Table 3.2 to include reference to 'enhance'. Noted.

5.4 Screening of Final Changes to the Plan

Table 5 5 includes a screening of all changes made to the final Plan to assess the potential for significant effect and the need for mitigation. New text added to policies or actions from the draft Plan is highlighted in blue while text removed from the draft Plan is noted with a ~~strikethrough~~.

Table 5-5: Summary of Other Key Environmental Issues Raised on the Draft Plan during Public Consultation

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / strikethrough denotes significant changes]*	SEA / AA Assessment
CP5: Changing Behaviours	Influence and encourage informed behavioural improvements in business and households through Local Authority and external networks and coordinated multi-agency awareness campaigns, including mywaste.ie, to prevent waste and manage resources to increase the value and circular potential of materials.	Create better understanding, through polls, surveys and research and then influence and encourage informed behavioural improvements in business and households through Local Authority and external networks and coordinated multi-agency awareness campaigns, including mywaste.ie, to prevent waste and manage resources to increase the value and circular potential of materials.	This core policy primarily focuses on increased education and awareness to influence and encourage behavioural improvements in households and business through Local Authorities and external networks. Coordinated multi-agency awareness campaigns, including mywaste. ie will have positive educational impact on individuals and business to promote the concept of resource efficiency, waste prevention and preparing for reuse as best environmental practice. Such campaigns are required to educate people that waste prevention sites above recycling in the waste hierarchy. Households, industry and state agencies for instance, all implementing small changes derived from these education and awareness campaigns, could cumulatively have a very significant positive impact on prevention. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / strikethrough denotes significant changes]*	SEA / AA Assessment
CP7: Innovation	Encourage and support further research and innovation in the transition to a circular economy. across the waste sector with a particular focus on the management of non-kerbside waste streams.	Encourage and support further research and innovation in the transition to a circular economy. ~~across the waste sector with a particular focus on the management of non-kerbside waste streams~~	This core policy is directed towards promoting further research and innovation in the transition to a circular economy across the waste sector with a particular focus on the management of non-kerbside waste streams. Since the policy aims to support research and innovation, and in the long term will have positive impacts on the environmental objectives. Overall, this policy aims to prevent and minimise waste, by encouraging innovation through research, with a particular focus on the non-kerbside waste streams. When achieved, this will result in less waste to be transported, treated or disposed, with consequent positive impacts on the environment generally. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
CP10: Green Public Procurement	Reinforce the consistent application of Green Public Procurement criteria in local authority contracts to ensure that public spending is aligned with the policies of this Plan.	Reinforce the consistent application of Green Public Procurement criteria in local authority contracts to ensure that public spending is aligned with the policies of this Plan and the Green Public Procurement Strategy and Action Plan.	This core policy is focused on reinforcing the consistent application of Green Public Procurement criteria in local authority contracts to ensure that public spending is aligned with the policies of this Plan. In the long term, this will have positive impacts for all of the environmental objectives. Green public procurement recognises the purchasing power of the public sector and can leverage that to bring about efficiencies in resource use, cost saving and environmental benefits. Examples include energy efficient computers, fuel efficient vehicles and sustainable construction materials. The EPA has produced a guidance to assist the public sector to implement and maintain procedures for green public procurement in 2021. Reinforcement of GPP will further improve the process whereby public and semi-public authorities utilise goods, services, works along with solutions towards reduced impact on the environment throughout their-lifecycle which will have positive benefits over long term. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.

Table 5-5: Summary of Other Key Environmental Issues Raised on the Draft Plan during Public Consultation (Cont'd)

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / strikethrough denotes significant changes]*	SEA / AA Assessment
CP12: Nationally Important Infrastructure	The Plan recognises and supports the need for nationally important waste infrastructure, including infrastructure of the type, scale, and proximity essential to maintain waste services and infrastructure that contributes to the ambition and policies of the Plan.	The Plan recognises and supports the need for nationally and regionally important waste infrastructure, including infrastructure of the type, scale, and proximity essential to maintain waste services and infrastructure that contributes to the ambition and policies of the Plan.	This core policy lays emphasis on supporting the need for nationally and regionally (included in the final Plan) important waste infrastructure including infrastructure of the type and scale essential to maintain a functioning waste market and infrastructure that contributes to the Ambition and Policies of the Plan. Recognition of the waste infrastructure deficit in Ireland is crucial and lays foundation for the proactive planning for adequate waste treatment capacity to reduce the negative environmental impacts and therefore is broadly positive. However, expanding on existing infrastructure will also have negative implications for BFF, LS, AQ and W in the form of land use changes, air and water emissions and disturbance to biodiversity. Any such development would likely be subject to EIA and AA to attain the necessary consents at project level. The revised wording results in no change to the assessment presented within the Environmental Report given the same level of regulation for national or regional infrastructure.
CP13: Funding this Plan	The Plan seeks to attract funding and support for initiatives and projects that underpin business continuity, core and targeted policies and priority actions. Any project or initiative arising from the implementation of this Plan will take account of appropriate principles including the polluter pays principle.	The Plan seeks to attract funding, including from relevant taxes and economic instruments, and support for initiatives and projects that underpin business continuity, core and targeted policies and priority actions. Any project or initiative arising from the implementation of this Plan will take account of appropriate principles including the polluter pays principle.	This core policy is focussed on attracting funding and support for initiatives and projects that underpin business continuity, core and targeted policies and priority actions. The former underlying action under this policy is more research drive and involves financial data collection and therefore will have positive implications on PHH and MS SEOs whereas no significant implications are expected for the remaining SEOs. The underlying action related to funding is positive. It will be useful to implement a more coordinated system to increase the probability of funding success. By identifying the relevant funding sources, activity and project opportunities and partners, it will bring a clear focus on the areas requiring work, define benefits and set out how and who will carry out the work. Increased funding will bring positive benefits as it will allow activities or research to be carried out which may otherwise not be done. Additionally, the policy states that any project or initiative arising from the implementation of this Plan will take account of appropriate principles including 'polluter pays principle'. This will impact the SEOs positively as it will help ensure that responsible party is held accountable for inappropriate practices. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
National Target 1A: Residual Municipal Waste	1% Reduction in rMSW per person per year	6% Reduction in rMSW per person by 2030	Change noted and updated in final Plan but no significant effect on the environment as this change in target is simply a six year aggregate target rather than an annual target.
National Target 2:	90% Material Compliance	Target 2A: 90% Material Compliance through Segregation in the Dry Recycling Bin; Target 2B: 90% Material Compliance through Segregation in the Residual Bin by 2030 through annual 10% increases in material compliance.	Targets revised based on the 2022 EPA waste characterisation study to ensure baseline and suitable ambition are included in these targets. Change noted and updated in final Plan but no significant effect on the environment.
National Target 3	Target: 10 kg per person per year	Target: ~~10~~ 20kg per person per year Baseline ~~6.62~~ 10.6kg per person (~~2020~~2021)	Baseline revised based on 2021 data published by the EPA with a more ambitious target applied. Change noted and updated in final Plan but no significant effect on the environment.
TP1.3	Strengthen the monitoring and accurate measurement of non-household municipal waste flows.	Strengthen the monitoring and accurate measurement of ~~non-household~~ commercial municipal waste flows.	Change noted and updated in final Plan. This focus area aims to strengthen the monitoring and measurement of commercial waste data. As it focuses on monitoring and measuring data it will have neutral impacts on the environment.

Table 5-5: Summary of Other Key Environmental Issues Raised on the Draft Plan during Public Consultation (Cont'd)

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / strikethrough denotes significant changes]*	SEA / AA Assessment
PA1.1	To develop and deliver targeted awareness campaigns and projects to improve behaviours on prevention reuse and repair in non-household settings.	Collaborate with other agencies to develop and deliver targeted awareness campaigns and projects to improve behaviours on prevention reuse and repair in non-household settings.	Change noted and updated in final Plan. The focus towards behavioural change is a priority for waste management. Education and awareness is possibly the most important policy area of all in terms of environmental protection as it offers the greatest scope to reduce negative behaviours at the individual, community, regional and national levels. Priority Actions promoting prevention, reuse and repair can have significant short, medium and long term positive indirect and cumulative impacts for the environment. In addition, resource efficiency which sees materials reused and recycled rather than being discarded as waste in the first place. This too has indirect positive effects for the environment through reduced resource consumption and reduced need for transport and processing of materials for the consumer market. This may result in short to medium term negative impacts for some aspects of MA as markets shift away from resource consumption to reuse. The Priority Action supports the Waste Framework Directive waste hierarchy. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
PA3.1	Support Compliance Schemes in the development and delivery of targeted awareness campaigns and projects.	Support Compliance Schemes in the development and delivery of targeted awareness campaigns and projects in relation to packaging.	Change noted and updated in final Plan. The proposed action to support the Compliance Schemes to develop and deliver awareness campaigns and projects is a proactive approach towards education and awareness. It focuses on the start of the supply chain where change in behaviour and attitude can have the strongest effect in achieving circularity of mandated waste streams. Therefore, this action will have positive implications across all the SEOs over long term. The inclusion of the text specifying packaging provides a focus for this action with no adverse impact.
TP5.2	Coordinate the response of the local authority sector to the specific sectoral obligations contained in the National Food Waste Prevention Roadmap including regulatory and awareness activities.	Coordinate the response of the local authority sector to the Food Waste Charter and the specific sectoral obligations contained in the National Food Waste Prevention Roadmap including regulatory and awareness activities.	Change noted and updated in final Plan. The Stop Food Waste programme is a national campaign to reduce household food waste in Ireland, managed by the EPA. The programme runs awareness-raising initiatives which aims to change attitudes and behaviours towards food waste and how it can be managed more sustainably. Indirectly, these behaviour changes can help households save money and lessen the impact on the environment. The focus towards behavioural change is a priority for waste management. Education and awareness is possibly the most important policy area of all in terms of environmental protection as it offers the greatest scope to reduce negative behaviours at the individual, community, regional and national levels in regard to packaging waste. The annual National Food Waste Recycling Week programme will further raise awareness regarding food waste and change behaviours and attitudes towards food waste. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
PA5.3	Manage the procurement, delivery and monitoring programme for the national rollout of Food Waste Separation Packs to households.	Manage the ~~procurement~~, delivery and monitoring programme for the national rollout of Food Waste Separation Packs to households.	Change noted and updated in final Plan. This Priority Action is directed at data gathering and whilst it provides the tools, methodologies and data required to inform key actions arising Plan, it has limited direct impact on environmental receptors. The Priority Action will ensure consistency and follow up in reporting and monitoring of actions. By ensuring appropriate reporting and follow up, this Priority Action will have broadly positive indirect impacts on all environmental receptors by ensuring that the effectiveness of actions can be tracked, and improvements made if necessary. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
PA5.6	-	Explore options to improve the harmonisation of the renewable feed in tariffs across the island of Ireland to incentivise the indigenous treatment of food/biowaste.	The Renewable Electricity Support Scheme provides support to renewable electricity projects in Ireland such as those utilising food or biowaste to generate electricity. Harmonisation of the tariffs will aid in incentivising the use of biowaste as a renewable source thereby having positive climate and material asset (lower waste and energy security) impacts. Project level impact may be mitigated at planning stage but the strategic nature of this action is generally positive.
PA6.2	Promote best practice in the retail sector including in-store packaging collection systems, deposit return schemes, promotion of reusable packaging and product refills.	Promote best practice and raise awareness of future obligations in the retail sector on reducing packaging waste including in-store packaging collection systems, deposit return schemes, promotion of reusable packaging and product refills.	Change noted and updated in final Plan. The EC report on Resource Efficient Europe outlined how 'changing consumption patterns of purchasers, both private and public, will help drive resource efficiency' and 'consumers can save costs by avoiding waste themselves and buying products that last, or that can easily be repaired or recycled'. Comprehensive education and awareness programmes use a variety of established networks, traditional and new media to deliver campaigns which progresses the development of awareness on waste prevention. The promotion of the mentioned schemes will be immediately neutral; however, the short, medium and long term benefits will be indirect and positive through changing behaviours and attitudes towards waste across the life-cycle of the product from, design and manufacturing to consumer reuse. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.

Table 5-5: Summary of Other Key Environmental Issues Raised on the Draft Plan during Public Consultation (Cont'd)

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / strikethrough denotes significant changes]*	SEA / AA Assessment
PA6.4	Promote the use of recycled materials in packaging with designers and manufacturers	Promote the use of recycled materials in packaging with designers and manufacturers to support the transition to the requirements of the revised Packaging and Packaging Waste Regulations.	Change noted and updated in final Plan. This note is added to reflect the pending legislation for this focus area which, while outside the timeframe for this Plan, is a valuable indicator to alert operators on future obligations.
PA7.2	Implement best practice with regard to single use plastic in the hospitality events and community sectors and prepare best practice guidelines for the sector for the elimination of single use plastic.	Implement best practice with regard to single use plastic in the licensing of hospitality events and community sectors and prepare best practice guidelines for the sector for the elimination of single use plastic.	Change noted and updated in final Plan. This Priority Action is directed at data gathering and whilst it provides the tools, methodologies and data required to inform key actions arising Plan, it has limited direct impact on environmental receptors. The Priority Action will ensure consistency and follow up in reporting and monitoring of actions. By ensuring appropriate reporting and follow up, this Priority Action will have broadly positive indirect impacts on all environmental receptors by ensuring that the effectiveness of actions can be tracked and improvements made if necessary. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
PA8.3	Develop and deliver training, with the EPA, to support national decisions on Article 27 by-products for site won asphalt (road planings) and greenfield soil and stone; and support the implementation of a national decision on Article 28 end-of-waste for aggregates, which includes crushed concrete and prioritise the use of materials arising from national end-of-waste or by-product decisions.	Develop and deliver training, with the EPA, to support national decisions on ~~Article~~ Regulation 27 by-products for site won asphalt (road planings) and greenfield soil and stone; and support the implementation of a national decision on ~~Article~~ Regulation 28 end-of-waste for aggregates, which includes crushed concrete and prioritise the use of materials arising from national end-of-waste or by-product decisions.	Change noted and updated in final Plan. This is a simple nomenclature change as agreed with the EPA with no change to the assessment in the Environmental Report.

Table 5-5: Summary of Other Key Environmental Issues Raised on the Draft Plan during Public Consultation (Cont'd)

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / strikethrough denotes significant changes]*	SEA / AA Assessment
PA8.5	Explore the potential to segregate waste streams in mixed waste skips to minimise contamination and maximise reuse, recycling and circularity on construction sites and provide guidance to the sector.	Explore the potential to segregate waste streams in mixed waste skips to minimise contamination and maximise reuse, recycling and circularity on construction ~~sites~~ projects and provide guidance to the sector.	Change noted and updated in final Plan. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
PA8.6	Allocate available resources, and identify any additional resources required, to consistently monitor construction and demolition sites to assess compliance with the project Resource & Waste Management Plan and apply appropriate enforcement measures to ensure compliance.	Allocate available resources, and identify any additional resources required, to consistently monitor construction and demolition ~~sites~~ projects to assess compliance with the project Resource & Waste Management Plan and apply appropriate enforcement measures to ensure compliance.	Change noted and updated in final Plan. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
PA10.1	Conduct awareness raising campaigns to highlight best-practices and alternatives, with initial focus on paints, cleaning products and gardening chemicals.	Conduct awareness raising campaigns to highlight best-practices and alternatives, with initial focus on paints, cleaning products, lithium-ion batteries, and gardening chemicals.	Change noted and updated in final Plan. This policy action is led by the Environmental Protection Agency with engagement with the Local Authority Sector and aim to change behaviours towards hazardous waste through raising awareness and updating guidance. The revised wording is only for context to include this specific stream as an example and results in no change to the assessment presented within the Environmental Report.

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / ~~strikethrough~~ denotes significant changes]*	SEA / AA Assessment
PA11.1	Ensure infrastructural developments are in compliance with the waste hierarchy, and siting guidance through engagement with An Bord Pleanála and Planning Authorities.	Ensure infrastructural developments are in compliance with the waste hierarchy, ~~and~~ siting guidance and the wider policy framework of this Plan through engagement with An Bord Pleanála, ~~and~~ Planning Authorities and other relevant bodies.	Change noted and updated in final Plan. This action of collaborating with An Bord Pleanála and Planning Authorities to ensure infrastructural developments are in compliance with the waste hierarchy and siting guidance is positive for all the SEOs over the long term. Waste hierarchy compliance at an early stage assisted with siting guidance will significantly help with waste management as it will ensure that the precedence is given to prevention and re-use over recovery and disposal of waste. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
TP12.1	Promote the development of repair and preparing for reuse initiatives with the provision of technical, regulatory and financial support working in partnership with the voluntary sector and other parties.	Promote the development of repair and preparing for reuse initiatives with the provision of technical, regulatory and financial support working in partnership with the voluntary sector and other parties through the National Reuse and Repair Partnership.	Change noted and updated in final Plan. Even though the reuse and repair sector has progressed significantly in Ireland, there is still a considerable need for establishment of 'preparation for reuse' centres. It is noted that this sector is labour intensive and requires skilled workers. Therefore, the action related to provision of technical support and training is broadly positive and will have direct implications for the PHH, LS and MA SEOs as this would help with consolidation of reuse and repair sector. The action may also have indirect positive effects for AQ, CF, CH and LandS SEOs as repair and reuse of relevant waste would prevent waste accumulation in landfills and subsequent effects on air quality and visual amenity. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.

Table 5-5: Summary of Other Key Environmental Issues Raised on the Draft Plan during Public Consultation (Cont'd)

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / ~~strikethrough~~ denotes significant changes]*	SEA / AA Assessment
TP12.3	Support the development of viable materials recovery or other advanced pre-treatment infrastructure that increases the circular potential of materials.	Support the development of viable reuse/repair infrastructure and initiatives including materials recovery or other advanced pre-treatment infrastructure that increases the circular potential of materials.	Change noted and updated in final Plan. Repair and reuse of viable materials will in turn ease the burden of recycling infrastructure and thereby support circular economy. Piloting one dedicated collection service for potential repairable products in each region can prove beneficial. It will have direct positive implications for PHH (employment opportunities for repair practitioners), LS (reduction of waste ending up in landfills) and MA (reduction in amount of waste recycled or exported) SEOs. There is a potential for negative impact for CF SEO due to the emissions generated from the collection service if not managed properly. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
TP12.4	Encourage the development of circular activities which stimulate and support viable secondary material markets and in the construction, industrial and bioeconomy sectors.	Encourage the development of circular activities which stimulate and support viable secondary material markets and secondary product markets in the construction, industrial and bioeconomy sectors.	Change noted and updated in final Plan. Construction and Demolition (C&D) waste represents a substantial waste stream in Ireland in terms of both volume and weight and are exported for final treatment outside the State. Identification of potential secondary materials markets in the construction sector in the absence of any significant metal recycling capacity within the State is an overall positive step towards reduction of waste exports. This will have indirect positive implications for LS, W, AQ, CF and MA SEOs over long term by decreasing the emissions during transportation, prevention of accidental release of waste in water bodies, and decrease in waste accumulation in the landfill. Consequently, this action will aid with transition to circular economy by tackling the huge amount of C&D waste. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
PA12.5	Investigate the appropriate authorisation regime for reuse and repair activities to facilitate the capture of reuse and repair data.	Investigate the appropriate authorisation regime for reuse and repair activities to ~~facilitate the capture of reuse and repair data.~~	Change noted and updated in final Plan. The action relates to investigating the appropriate authorisation regime for reuse and repair activities to facilitate the capture of reuse and repair data. This will have indirect positive implications for LS, CF and MA SEOs as the reuse and repair data can be utilized to further enhance opportunities for effective waste management and transition to circular economy. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / strikethrough denotes significant changes]*	SEA / AA Assessment
PA12.6	-	Collaborate with the EPA through the National Reuse and Repair Partnership to facilitate the capture of reuse and repair data.	This is an administrative task to collaborate on data assimilation and analysis. No potential for significant adverse impact.
PA14.2	Set a circularity goal for the output from biological treatment facilities and for soil and other construction and demolition waste streams.	Set ~~a~~ circularity criteria ~~goal~~ for the output from biological treatment facilities and for soil and other construction and demolition waste streams.	Change noted and updated in final Plan. Setting up a circularity goal for the output from biological treatment facilities and for soil and other construction and demolition waste streams depending on determinations on end-of-waste or by-products is an overall positive action for the majority of SEOs including LS, MA, PHH, BFF and W. It was noted that 528,000 tonnes of waste accepted for treatment at composting & anaerobic digestion facilities in 2019 which was an overall increase of 19% and about 8.8 million tonnes of waste accepted for treatment at composting & anaerobic digestion facilities in 2019. To further enhance the recycling rates and foster Ireland's move to a circular economy, more biowaste and C&D waste including soil from both commercial and household sources needs to be diverted to relevant bins and composted or treated respectively. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.

Table 5-5: Summary of Other Key Environmental Issues Raised on the Draft Plan during Public Consultation (Cont'd)

Reference	Draft Plan Recommendation / Action Wording	Final Plan Recommendation / Action Wording *[Blue text / strikethrough denotes significant changes]*	SEA / AA Assessment
PA14.6	-	Support the development of circular bioeconomy infrastructure and initiatives that align with the policies of this Plan and the National Bioeconomy Action Plan 2023-2025.	Change noted and updated in final Plan. The National Bioeconomy Action Plan 2023-2025 was published in October 2023 and seeks to bring sustainable scientific practices, technologies, and biobased innovation into use on farms and by biobased industries in Ireland. The circular economy pillar of the Action Plan seeks to support and develop the bioeconomy in tandem with the circular economy, with a core focus on sustainability, circularity, regenerative practices, and enhanced natural capital. This pillar will ensure that the development of bioenergy occurs in tandem with the successful deployment of other biobased solutions. At policy level this will be positive for climate and material asset (circular systems and energy security) impacts. Project level impact may be mitigated at planning stage but the strategic nature of this action is generally positive. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.
PA15.4	Work with the landfill operators to ensure that remaining void space is utilised primarily for residual municipal waste.	~~Work~~ Collaborate with the landfill operators to ensure ~~that remaining void space is utilised primarily for~~ residual municipal waste has priority to the available licensed landfill void capacity over and above other waste streams.	Change noted and updated in final Plan. There are three landfills that accept municipal waste for disposal in Ireland. The proposed action suggests collaboration with landfill operators to utilise municipal solid waste for filling the remaining void space at such sites. These existing facilities are already consented and are operating under EPA waste licences. The revised wording is only for context and results in no change to the assessment presented within the Environmental Report.

6 PREFERRED SCENARIO AND REASONS FOR CHOOSING THE FINAL PLAN

6.1 Introduction

The consideration of alternatives is a requirement of the SEA Directive (2001/42/EC). Article 5(1)[1] which states that: 'where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated.'

The Directive does not prescribe at what stage consideration of alternatives should be undertaken, however, to present a useful input into the plan making process, all guidance points to considering alternatives as early as possible. Guidance also recognises that multiple layers of alternatives may exist, particularly for plans of this nature.

Two principle guidance documents have been referenced in the development of alternatives:

- Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment, DEHLG 2004; and
- Developing and Assessing Alternatives in Strategic Environmental Assessment, EPA 2015.

Early discussion of possible alternatives was undertaken during the scoping stage for the Plan. This chapter updates Chapter 7 of the Environmental Report and considers the reasonable alternatives which have been developed through the evolution of the Plan.

6.2 Approach to Alternatives for the Plan

Given that the Plan is a high-level national plan, it has been important that alternatives are reflective of its strategic nature.

Both the Plan team and the SEA team have also been conscious of the need for iteration in this regard and consideration of alternatives therefore started early in the process. Alternatives were first discussed in relation to SEA scoping. A meeting was held with the Plan team to establish possible reasonable alternatives. Further to this a series of scoping workshops were held throughout 2022 with the Plan team where these alternatives were tabled for further discussion. The basis for alternatives discussions was the EPA Guidance: Developing & Assessing Alternatives in SEA[2]. This guidance points to four key criteria for identification of alternatives and broad categories of alternatives that might be considered as outlined in **Figure 6.1.** In the context of the Plan the criteria considered were:

- **Realistic:** Do the alternatives have the capacity to achieve the Plan ambition and targets and those of other national plans;
- **Reasonable:** Do the alternatives consider baselines and trends in the marine area, and also reflect the legal requirement, such as those of the Habitats Directive;
- **Viable:** Are the alternatives technically possible and feasible; and
- **Implementable:** Are the alternatives capable of being put into action, within realistic timeframes, and for which there are adequate resources.

The SEA Scoping Report included a series of high level considerations on alternatives for discussion and these are reproduced in **Table 6 1.** Following this initial consideration and feedback during scoping consultation, these alternatives were further considered in a series of dedicated workshops with the Plan Team.

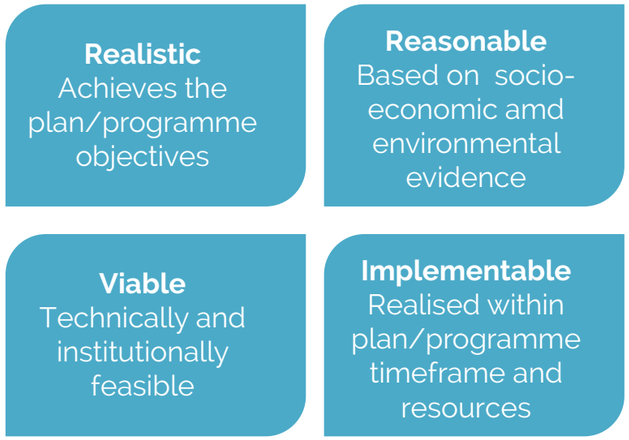

Figure 6.1: Criteria for Alternatives and Categories Considered [Source: EPA Guidance, 2015]

[1] Directive 2001/42/EC On the assessment of effects of certain plans and programmes on the environment, EC 2001
[2] Developing and Assessing Alternatives in SEA, EPA 2015

Table 6-1: Alternatives proposed for consideration in the SEA Scoping Report

Alternative Type	Description	Example Considerations with respect to the Plan
Strategic	High-level options that achieve a given objective. These types are commonly realistic only at policy level.	National legislation includes a commitment to managing waste in Ireland, as dictated by EU Directives and the Waste Management Act, as amended. The Plan is Ireland's key policy document in this regard. • At the strategic level, given the statutory requirement (under national waste management legislation) for the Plan to be reviewed and updated, it is not proposed to assess a do nothing scenario as this is not considered reasonable. • It is further noted that a business as usual scenario is not considered realistic as there have been a number of policy and legislative changes (Green Deal, Circular Economy, Amended WFD) since the regional plans were published. • Consideration of the implications of any key developments in legislation relating to waste.
Value and Effects Oriented	Alternatives that address policy priorities, cultural values or safety issues. Such alternatives are most appropriate for addressing public perceptions, concerns and values. Alternatives that address issues identified during scoping. Such alternatives are effective at mitigating potential significant effects.	• Assessment of the concept of greater self-sufficiency and critical mass of throughput in Ireland versus the export scenarios for a number of waste streams. • Recommendations and actions that are reflective of the evolving public perception and understanding of waste management/waste as a resource, and how the public can contribute, e.g. by encouraging appropriate household waste prevention, reuse, repair and disposal/ recovery practices. • A plan that is supportive of knowledge transfer to stakeholders at all levels.
Spatial	Alternative locations for the implementation of planning objectives.	The scope of the Plan will not specify geographically where waste infrastructure should be sited other than governing existing consent operations and historic landfills. However, policies/ recommendations arising from the plan may support the development or continued implementation of siting guidelines at the lower planning tier. Potential spatial alternatives for any contingency waste management infrastructure.

Table 6-1: Alternatives proposed for consideration in the SEA Scoping Report (Cont'd)

Alternative Type	Description	Example Considerations with respect to the Plan
Modal	Different technical/ mode alternatives to achieve the same objective.	Different technical/ mode alternatives to achieve the same objective may include consideration of various waste management technologies to deliver on Plan objectives, for example: • The promotion of prevention as the principle waste management approach within the Plan; • The support for the repair and recycle network over more traditional recovery options; • The technologies required to address the residual national infrastructure deficit to manage waste streams; and • The technologies required to support any contingeny waste management infrastructure.
Sectoral and/ or Temporal Prioritisation	Alternatives that look at sectoral feasibility and needs at the strategic level, policies can be formulated to promote one sector versus another.	Alternatives that look at sectoral and temporal feasibility could include: • Consideration of alternatives which are not currently feasible in this iteration of the plan but may become feasible/ economically viable in the future; and • Support for increasing indigenous capacity to treat certain waste streams versus continued or expanded export of waste.

6.3 Assessment Parameters

The approach used for assessing alternatives for the Plan was an objectives-led assessment. Each alternative has been assessed against a set of strategic environmental assessment objectives (as detailed in Table 3-2). The assessment compares the likely impacts in terms of the Strategic Environmental Objectives to see how alternatives perform in relation to the stated environmental objectives.

For the purposes of the assessment of alternatives:
- Plus (+) indicates a potential positive environmental impact;
- Minus (-) indicates a potential negative environmental impact;
- Plus/minus (+/-) indicates that both positive and negative environmental impacts are likely or that in the absence of further detail the impact is unclear; and
- Zero (0) indicates neutral or no environmental impact.

The following notation is used in the assessment tables:

Symbol	Meaning
Plus (+)	Indicates a potential positive environmental impact
Minus (-)	Indicates a potential negative environmental impact
Plus/minus (+/-)	Indicates that both positive and negative environmental impacts are likely or that in the absence of further detail the impact is unclear
Zero (0)	Indicates neutral or no significant impact

Under each alternative a discussion is presented to support the assessment parameters shown and the reason for choosing the preferred alternative. Assessments include qualitative and where possible quantitative information.

6.4 Strategic Alternatives

Early discussions with the Plan team identified three issues of a strategic nature which could drive the direction of the Plan. These issues and their reasonable alternatives were considered by the SEA team and outcomes fed back to the Plan team for consideration. The issues and alternatives considered are presented in the following sections of this report.

Note that under Section 22(4) of the WMA, the local authorities are obliged to review waste plans at six yearly intervals:

A local authority or, in the case of a waste management plan under subsection (3), the 2 or more local authorities concerned, shall ensure that a waste management plan made by it or them from time to time as occasion may require is evaluated at least once in each period of 6 years after the date of making of the plan and may, consequent on such an evaluation, where appropriate, make, in accordance with Article 9 of the Waste Directive, Regulation 31 of the Regulations of 2011 and section 23, any revisions to the plan or replace it with a new waste management plan as it or they thinks or think fit.

As such, a 'Do-Nothing' alternative whereby the three existing RWMP remain the waste policy base within the State is not realistic and is not considered further within this analysis.

6.4.1 A Linear versus Circular Resource Model

Key: PHH – Population and Human Health; **BFF** – Biodiversity, Flora and Fauna; **LS** – Soils; **W** – Water; **AQ** – Air Quality; **CF** – Climatic Factors; **MA** – Material Assets; **CH** – Cultural Heritage; **LandS** – Landscape.

Background: Under the WMA, municipal waste is defined as 'household waste as well as commercial and other waste which, because of its nature or composition, is similar to household waste' and is reported as inclusive of the following:

- Residual (i.e. black bin) waste e.g. waste that cannot be recycled;
- Recyclable (i.e. green bin) waste e.g. glass, plastic, paper & board, metals;
- Organic (i.e. brown bin) waste e.g. food and garden waste;
- Bulky waste e.g. waste that cannot fit in a wheelie bin such as broken furniture, carpets, toys etc.; and
- Waste Electrical and Electronic Equipment (WEEE).

The EPA report that in 2019[3], Ireland generated 3.1 million tonnes of municipal waste in 2019 with 52% from households and 48% from commercial sources. This waste stream has a high circular potential with paper, plastic, glass, metals, organics, textiles, WEEE, etc. generated and potentially available for recycling if suitably presented, segregated and collected.

Description of Alternative
Strategic Alternative 1 (S1): Business as usual scenario whereby the current practices on resource management through a high recovery model are maintained.
Strategic Alternative 2 (S2): A modified approach whereby more circular resource management practices are adopted, support and enhanced to move waste management higher up the waste hierarchy.

Reference	PHH	BFF	LS	W	AQ	CF	MA	CH	LandS
S1	+/-	+/-	+/-	+/-	+/-	-	-	0	+/-
S2	+/-	+/-	+/-	+/-	+/-	+	+	0	+/-

[3] Link: https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/municipal/

However, the EPA report that in 2019, only 1.2 million tonnes (37%) of this stream was recycled and there has been a downward trend in Ireland's recycling performance to the 37% recorded for 2019 from 41% in 2014. **Table 6-2** presents the fractions of waste recycled, recovered and disposed from 2012 to date and illustrates this largely declining recycling fraction (as shown in green **Figure 6.2**).

More positively, the disposal rate (as shown in red **Figure 6.2**) is declining and reduced from 41% in 2012 to 16% in 2021 (disposal through landfill was as high as 84% in 2001). Disposal is predominately through landfill and under EU regulation Ireland must reduce the share of municipal waste landfilled to 10% or less by 2035. Landfilling of waste is unsustainable and eliminates any potential circular potential of waste materials.

The reduction in disposal over the past decade coincides with a resultant increase in recovery and 1.4 million tonnes (46%) of Ireland's municipal waste went for incineration with energy recovery in 2019 with similar levels in 2020 and 2021. This has increased from 19% in 2012 as new waste to energy infrastructure has been developed (as shown in blue **Figure 6.2**). While waste to energy generates electricity, and is thereby a higher tier operation than disposal, the combustion of waste also eliminates any potential circular potential of waste materials.

Table 6-2: Municipal Waste Recycling, Recovery and Disposal [Source: EPA]

Year	2012	2014	2016	2017	2018	2019	2020	2021
Recycling	40%	41%	41%	41%	38%	38%	41%	41%
Recovery	19%	39%	32%	36%	47%	47%	43%	42%
Disposal	41%	21%	26%	23%	15%	16%	16%	16%

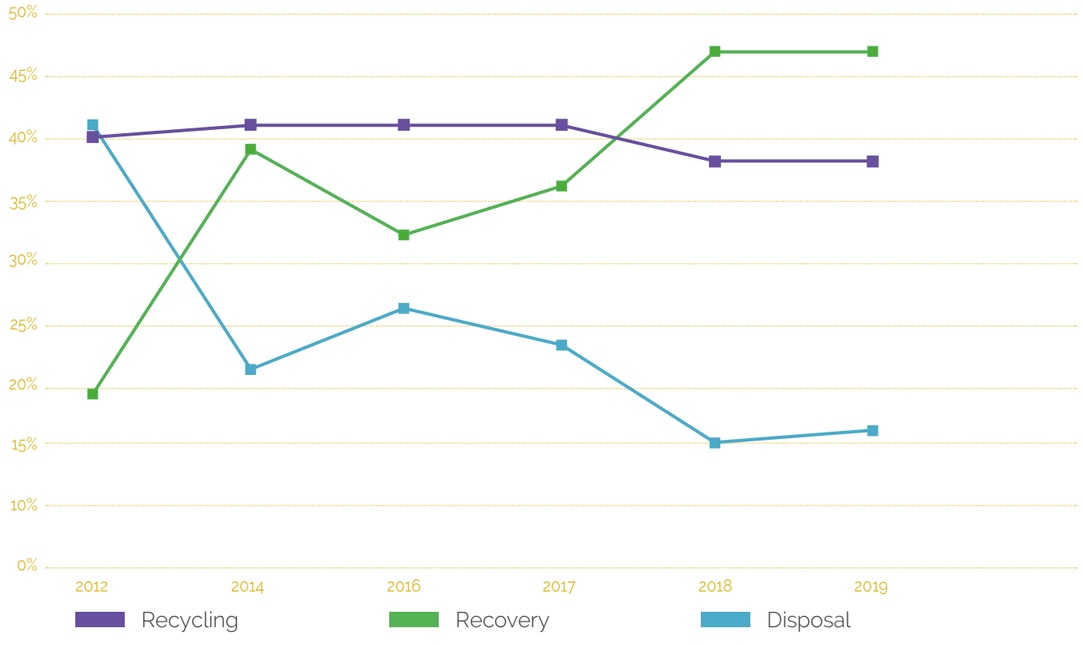

Figure 6.2: Trends in Municipal Waste Recycling, Recovery and Disposal [Source: EPA]

The two strategic alternative pathways under consideration are a business as usual scenario whereby the existing reliance on recovery through incineration for municipal waste is maintained (Alternative S1) or alternatively, the policy base shifts to a more circular recycling model whereby there is a continued reduction in disposal coupled with an increased recycling fraction and reduced recovery fraction (Alternative S2).

Discussion: Both alternatives will have a positive impact through the continued reduction on disposal to landfill with further reductions required to meet the EU 10% target by 2035. Landfills have potential for localised and direct adverse impact to Land and Soils (LS), Water (W) and Air Quality (AQ) through the generation of leachate and landfill gas. The associated indirect adverse impacts associated with landfilling include nuisance impacts to Population and Human Health (PHH), loss of function for Biodiversity, Flora and Fauna (BFF) and impacts to the wider Landscape (LandS).

In addition, landfilling of municipal waste (even with gas utilisation) generates higher levels of GHG relative to waste to energy or recycling and a reduction in landfilling will result in a net reduction in GHG emissions from the waste sector. In short, both alternatives will result in positives for the wider environment through reduced landfilling but it is noted that landfilling is regulated by the EPA which may largely mitigate the potential for adverse impacts.

The business as usual, high recovery option (Alternative S1) ensures that waste is captured and treated in waste to energy plants through combustion with the thermal energy used to generate electricity. These plants eliminate the potential impacts to LS from leachate compared to landfilling but there are potentially more significant impacts to AQ from the generation of combustion gases and particulates and the potential indirect impacts PHH may be more pronounced. Again, these emissions are regulated by the EPA and subject to best available technology.

Like recovery, recycling operations can have mixed impacts in relation to PHH, BFF, W, AQ, LS and LandS. Recycling operations will potentially have direct discharges to air and water with resultant potential for indirect adverse impacts. However, as with recovery (and landfilling) these operations are typically subject to EIA and AA at consent stage which mitigates much of the adverse impact. In addition, like recovery, operations are typically regulated by the EPA which aids in further mitigating adverse impacts. In this regard, the potential for adverse impacts from the S1 and S2 alternatives are largely similar for PHH, BFF, W, AQ, LS and LandS.

In relation to climate impact (CF), WRAP have published a study on Carbon Waste and Resources Metric[4] that identifies the carbon impact of varying waste treatments and a sample set is shown in **Table 6-3** for selected waste streams. Note that the emission factors are normalised relative to landfill (which is set at 0) and negative figures represent a net decrease in carbon relative to landfill.

The data shows that for streams such as paper and board, waste to energy generates significantly less carbon than landfill while for others such as dense plastics, waste to energy generates significantly more than landfill. These factors relate to the bio-degradability of the waste stream versus the ability to combust in an incinerator. As such, the business as usual high recovery option (Alternative S1) has a generally lower carbon impact than the historical disposal option whereby waste was predominately disposed through landfill. However, it is noted that in 2019, 447,310 tonnes of municipal waste was exported for treatment through waste to energy which equates to circa 39% of all waste recovered in this manner in the year. The additional transport emissions associated with shipping this waste to mainland Europe somewhat compromises the carbon reductions of waste to energy over landfill.

Table 6-3: Indicative Waste Treatment GHG Emission Factors normalised versus Landfill (source: WRAP)

Waste Type	Recycling (kgCO2e per tonne waste)	Waste to Energy (kgCO2e per tonne waste)	Landfill (kgCO2e per tonne waste)
Paper and Board	-1,146	-1,260	0
Steel	-1,071	10	0
Glass	-335	-1	0
Textiles	-14,760	-7	0
Dense Plastics	-599	1682	0

[4] Carbon Waste and Resources Metric, WRAP. Link: https://wrap.org.uk/resources/report/carbon-waste-and-resources-metric

Alternative S2 seeks to reduce both the disposal and recovery fractions of waste treatment in favour of a higher recycling fraction. The data in **Table 6-3** also shows the reduced carbon impact of recycling these waste streams and while for some streams, such as paper and board, the carbon impact is similar to waste to energy, for others such as steel, glass, textiles and plastics, the carbon impact is much lower than the corresponding waste to energy recovery option. As such, the recycling Alternative S2 represents a generally lower climate impact than the existing high recovery option (S1).

It is noted that the above emission factors include criteria such as extraction and refining of raw material and production of material product. As such, the need for primary raw materials has been accounted for within the indicative metrics. This is also relevant to Material Assets (MA), whereby the Alternative S2 recycling option allows for more security of supply of secondary materials and reduces the need for natural resources to be extracted for this more circular model. In this regard, Alternative S2 is also more positive than S1 for MA as alternative S1 converts potential secondary materials to energy and combustion gases with no circular potential realised.

Preferred Environmental Alternative and Reason for Choosing: The preferred alternative is S2, the recycling model. While the potential for adverse impacts from both the S1 recovery and S2 recycling options may be similar in nature if not scale, the regulation of consents and operations can largely mitigate these impacts. They key variances lie in relation to climate and material assets – the recycling option is shown to be the low carbon option relative to S1 and also offers a far greater potential for secondary materials to increase security of supply and reduce the need for primary raw materials. It is noted that the waste treatment model will always be a mix of recycling and recovery (with disposal diminishing) and it will take time to shift the existing S1 model to S2 but this Plan should seek to achieve the high recycling S2 model within the timeframe of this Plan.

Alternative Brought Forward in the Plan: The stated ambition of the Plan includes 'optimising circular potential' of materials and this is enabled within the Plan through policies such as TP11.1 which requires the 'application of the waste hierarchy as the primary criteria' for the development/ enhancement of existing/new infrastructure or initiatives. In addition, a suites of specific policies to promote reuse/repair infrastructure and initiatives are included in Focus Area 12 and similar for recycling in Focus Area 13. While there are policies in recovery (Focus Area 14) and disposal (Focus Area 15) these are more restrictive to control infrastructure in these areas.

6.4.2 Indigenous Capacity versus Export

Key: PHH – Population and Human Health; **BFF** – Biodiversity, Flora and Fauna; **LS** – Soils; **W** – Water; **AQ** – Air Quality; **CF** – Climatic Factors; **MA** – Material Assets; **CH** – Cultural Heritage; **LandS** – Landscape.

Background: The EPA report that in 2019 Ireland was heavily reliant on export to manage a range of waste streams as follows:

- 40% of all municipal waste was exported for treatment (1.2 million tonnes - 701,000 tonnes went for recycling, 447,000 tonnes went for energy recovery and 90,000 for composting);
- 65% of all hazardous waste was exported for treatment (circa 377,000 tonnes) - mainly to the Netherlands, Norway, the UK, Denmark, and Germany;
- Only 16% of packaging waste was recycled in Ireland (mainly glass and wood) and almost all of Ireland's paper/cardboard and plastic packaging that was recycled in 2019 was exported abroad (508,778 tonnes of packaging exported);
- 73% of waste tyres were exported for treatment mainly to Asian countries (circa 33,500 tonnes); and
- 20% of waste treated by composting / anaerobic digestion took place at facilities in Northern Ireland (circa 105,600 tonnes).

All of the above equates to circa 2.2 million tonnes of waste exported from Ireland to other countries for treatment through either disposal, recovery or recycling. This export option is largely driven by a lack of indigenous capacity coupled with significant available capacity in other states. Looking forward, there is a capacity deficit to manage waste generated within the State and Ireland is predicted to remain heavily reliant on waste exports to manage the above waste streams.

Section 37A of the WMA established the principles of self-sufficiency and proximity in Irish waste legislation and stipulates that an integrated and adequate network of waste disposal/recovery installations shall be designed to enable the Community as a whole to become self-sufficient in waste disposal/recovery. Clearly, Ireland is not fully self-sufficient in the above waste streams and continues to require exports to other Member States, the UK and further afield for final treatment.

It is noted that Section 37A also notes that the principles of proximity and self-sufficiency shall not mean that the State has to possess the full range of final recovery facilities within the State. As an illustrative example the export of organic waste to Northern Ireland represents an island self-sufficient and proximate network of treatment sites that is both sustainable and circular.

It is notable that in November 2021, the EU published a proposal for the revision of the Waste Shipments Regulation[5] which will seek to limit the export of waste to non-OECD countries by making such exports conditional on a demonstration that these countries can recover waste in a sound manner. There is a risk that a number of the current export markets used may not be viable in the longer term subject to the implementation of these revised EU rules. However, this presents the opportunity to explore options in Ireland and other nearby locations.

There is a balance that needs to be struck between providing treatment infrastructure and the ambition of this Plan to prevent waste in the long term. Successful implementation of the Plan will lead to a potential reduction in waste generation and the need for any future capacity should be viewed in this regard to avoid the over-supply of lower tier disposal (landfill is restricted 10% or less by the EU by 2035) and recovery infrastructure which may hinder incentives to reduce waste generation.

Alternative S3 seeks to implement specific policies to promote greater self-sufficiency in waste management whereas Alternative S4 seeks to maintain the business as usual approach and allow market forces to dictate the economic merits of indigenous treatment versus export.

Discussion: As all waste treatment operations within the EU are subject to the same development consent standards (EIA Directive and Habitats Directive) and operational regulation (Industrial Emissions Directive and associated BAT Conclusions), the management of waste within these Member States may be undertaken to the same standard as Ireland. In this regard, the potential for adverse environmental impacts are largely mitigated to similar degrees with similar outcomes.

Regulation within the other European States outside the EU (such as the UK and Norway) would be a similar standards to that within the EU and potential for adverse environmental impacts in these states are largely mitigated to similar degrees with similar outcomes as Ireland.

However, for countries outside of Europe and the Organisation for Economic Co-operation and Development (OECD), the standards for waste treatment and recycling are more varied. Development consents and operational regulation may not be to the same standard as Ireland and there are potential for significant adverse impacts in these jurisdictions from managing exported Irish wastes. This may be somewhat mitigated if the EU proposal to regulate exports to these countries is successful.

In short, the potential for direct and indirect adverse impacts from waste disposal, recovery or recycling in other states (subject to the successful implementation of the Waste Shipments Regulation) will be largely analogous to that undertaken in Ireland. In this regard the impacts to PHH, BFF, W, LS, AQ, CH and LandS re largely equivalent for both alternatives. The main variance between the alternative lie with CF and MA.

Alternative S4 facilitates export and will have a greater climate (CF) impact through the greater carbon emissions generated during transport of this waste. **Table 6-4** sets out a simple illustrative example of transporting a tonne of waste from the midlands to a treatment facility in Dublin (Alternative S3). The same calculation is compared to transporting the same tonne to a waste facility in Rotterdam (Alternative S4). The results show the export option (S4) is circa four times higher in emissions relative to the indigenous treatment option (S3).

The other parameter that varies between the alternatives is Material Assets (MA) in terms of resources and infrastructure which would be more positive under the S3 alternative given the need to develop and maintain national assets to treat the waste as well as the retained value in using the wastes for recovery within the Irish energy system (through thermal recovery). However, for Material Assets in terms of economics, the impact is more varied between the two alternatives. The current economic drivers would suggest that the S4 alternative facilitating export is more beneficial for waste generators with little incentive for the indigenous capacity (S3). These impacts will likely remain in flux with external market forces dictating the pace of an change.

Description of Alternative
Spatial Alternative 3 (S3): Implement specific policies aimed at reducing the level of waste export from the State to other jurisdictions to drive for greater self-sufficiency in waste management.
Spatial Alternative 4 (S4): Maintain the business as usual approach and allow market forces to dictate the economic merits of indigenous treatment versus export.

Reference	PHH	BFF	LS	W	AQ	CF	MA	CH	LandS
S3	+/-	+/-	+/-	+/-	+/-	+	+	+/-	+/-
S4	+/-	+/-	+/-	+/-	+/-	-	-	+/-	+/-

[4] Link: https://ec.europa.eu/environment/publications/proposal-new-regulation-waste-shipments_en

Table 6-4: Example of CO_2 Emissions Generated within the State vs. Export

Alternative	Journey	Approx. Distance (km)	Emission Factor[6] (kgCO2e per tonne.km)	Emissions (kgCO2e) per tonne of waste
S3	Midlands to Dublin by Road	124	0.07524 (100% laden all HGV)	**9.33**
S4	Midlands to Dublin Port	136	0.07524 (100% laden all HGV)	**36.53**
	Dublin to Rotterdam by ship	1163 [628 nautical miles]	0.01614 (average container ship)	
	Rotterdam Port to Waste Facility	100	0.07524 (100% laden all HGV)	

[4] UK Greenhouse gas reporting: conversion factors 2020.

Preferred Environmental Alternative and Reason for Choosing: While exporting some waste streams may always be required because such streams are specialist and there is insufficient throughput within the State for economic viability, the current levels of export are unsustainable. However, the absence of meaningful self-sufficient waste infrastructure within the State for streams such as municipal waste needs to be addressed to reduce the climate impacts associated with transport and the loss of resources associated with the current scale of exports. In this regard, the indigenous option S3 is the preferred alternative in this analysis.

Alternative Brought Forward in the Plan: Policy TP11.2 of the Plan specifically states that the Plan will 'enhance national self-sufficiency with the development of sustainable waste management infrastructure where feasible and viable'. It is Important that the terms 'sustainable', 'feasible' and 'viable' are included to ensure that appropriated scaled and targeted infrastructure is developed.

6.4.3 EU Targets versus Additional Plan Targets

Key: PHH – Population and Human Health; **BFF** – Biodiversity, Flora and Fauna; **LS** – Soils; **W** – Water; **AQ** – Air Quality; **CF** – Climatic Factors; **MA** – Material Assets; **CH** – Cultural Heritage; **LandS** – Landscape.

Background: The EU has established a wide legislative base for waste related targets that apply to Ireland and must be considered within this Plan. These targets are presented in Volume II of the Plan and may be summarised as follows:

- EU Waste Framework Directive progressive targets for the preparing for re-use and the recycling of municipal waste materials for 2020 (50%), 2025 (55%), 2030 (60%) and 2035 (65%);
- EU targets for recycling of packaging waste by 2025 (65%) and 20230 (70%);
- EU landfill minimisation target to ensure that by 2035 the amount of municipal waste landfilled is reduced to 10% or less.
- EU targets for Single Use Plastics including minimum recycled content and minimum collection rates;
- EU target on minimum fraction for preparing for re-use, recycling and other material recovery of construction waste by 2020 (70%);
- EU targets for WEEE and battery collection rates; and
- EU targets for End of Life Vehicles reuse, recovery and recycling.

In addition to the above existing and pending targets, there are a number of future targets pending including the United Nations Sustainable Goal (UN SDG) Target 12.3 to halve per capita global food waste by 2030 which is expected to be implemented in EU policy.

These mandatory targets provide a comprehensive and multifaceted suite of metrics that must be tracked and reported to aid in defining the State's performance in collection rates, recycling rates or other EU targets. In addition, the targets are specific to a number of the Focus Areas identified in the Plan and, as mandatory, the policies and actions within the Plan have been developed to contribute and support the achievement of these targets.

The application of these EU current and next generation targets alone (S5) is an alternative for consideration within this analysis.

Description of Alternative
Strategic Alternative 5 (S5): Employ the suite of EU taste related targets as the principle measure for tracking Plan progress.
Strategic Alternative 6 (S6): Establish a series of Plan specific targets for the specific remit of assessing Plan success and supplementing the EU target regime.

Reference	PHH	BFF	LS	W	AQ	CF	MA	CH	LandS
S5	+	+	+	+	+	+	+	0	0
S6	+	+	+	+	++	++	+	0	0

An alternative approach is to develop additional non-legislative and non-mandatory performance targets to supplement the EU target regime and provide impetus to the Plan (S6). This need is somewhat dictated by the WAPCE[7] and the Circular Economy Act 2022 which call for this Plan to include targets such as reuse, repair, resource consumption and a reduction in contamination. These targets are not mandated through EU legislation but may be included to set the ambition of the State to deliver this Plan.

One of the key tenets of the circular economy policy base (and reflected in the ambition of this Plan) is promoting sustainable consumption and production patterns and decoupling economic growth from waste generation. Article 9(3) of the Waste Framework Directive (2008/98/EC, WFD) requires Member States to 'monitor and assess the implementation of the waste prevention measures' and for that purpose 'they shall use appropriate qualitative or quantitative indicators and targets, notably on the quantity of waste that is generated'. However, there are currently no prevention or consumption targets established within EU or national legislation or policy. The 2015 RWMP did include a consumption target to achieve a 1% reduction per annum in the quantity of household waste generated per capita over the period of the plans (2015 to 2021) but compliance with this target was not achieved.

Like consumption, there are no EU or national targets set for reducing contamination or improving the quality of materials in the residual, recyclable or organic bins. Maximising the quantity while maintaining the quality of materials placed in the recycling and organic bin is essential to ensure a clean reliable feedstock for circular treatment options such as recycling. This core principle is referenced in the ambition of this Plan through 'improving the capture of all wastes optimising circular potential'.

Article 9(4) of the WFD requires Member States to monitor and assess the implementation of re-use measures by measuring re-use through a common methodology though a specific target for reuse is not stated. Unlike reuse, there is no legislation or supporting research available to assist developing repair targets for this Plan.

The Plan proposes a series of non-mandatory targets for reuse, repair, resource consumption and a reduction in contamination as required by the WAPCE. The introduction of these Plan targets would bring a renewed focus to bring about the required behavioural change from householders, commercial operators and all waste generators to reduce the quantity of waste being generated, to reduce contamination and to promote reuse and repair. The targets also provide a set of supplementary indicators to assess the achievement of the Plan ambition. It is considered that the non-mandatory targets will complement the proposed European targets and plans and will put Ireland on the path to achieving higher recovery rates if these come into force.

Discussion: In overall terms both mandatory and non-mandatory targets will bring positive environmental, economic and social benefits. The inclusion of the non-mandatory targets will help to stimulate prevention, reuse and recycling activities at the household and municipal levels which will in turn lead to job creation and employment. Employment in the reuse area often has a community and social aspect, creating in many instances employment for long-term unemployed and vulnerable members of society. The extension of product life through re-use and the use of recyclate in products coinciding with increased diversion of materials from non-circular treatment routes (disposal and recovery) has benefits on raw materials and energy (MA), air emissions (AQ) and water which have indirect positive effects on biodiversity, flora and fauna (BFF), human health (PHH), soils (LS) and climate (CF).

The additional non-mandatory targets alternative will build on the mandatory targets alternative outlined above. Prevention and reuse/repair which sit higher on the waste hierarchy and will bring net positive effects by reducing waste generation. Greater recycling and preparing for re-use targets will extend product life, expand the collection and use of recyclate and create potential opportunities for processing and reprocessing of new types of recyclables extracted from the waste stream. Higher order treatment and pre-treatment of waste over direct disposal to landfill will lead to better management cycles for wastes. The non-mandatory targets will have direct benefits on raw materials, air emissions, water, and energy which have indirect

[7] Link: https://www.gov.ie/en/publication/4221c-waste-action-plan-for-a-circular-economy/

positive effects on BFF, PHH, LS and CF. These will also have positive direct impacts on the economy, employment and society but may also have indirect impacts at construction and / or operational stages.

Thus use of either alternative will lead to a net decrease in waste generation and consequently indirect positive impacts for AQ and CF in particular through reduced emissions of GHG and air pollutants from the transport, treatment and disposal of waste material. Indirect positive impacts for LS, W, BFF and PHH would also be anticipated. In this regard both options represent a positive impact.

Preferred Environmental Alternative and Reason for Choosing: The preferred environmental alternative in this instance is Alternative S6 and the inclusion of additional non-mandatory targets. Broadly speaking, both S5 and S6 options are anticipated to give rise to similar positive effects as both are aimed at tracking and monitoring compliance levels in collection and recycling. However, alternative S6 also seeks to track higher tier activities such as prevention, reuse and repair and therefore offers wider benefits over S5.

Alternative Brought Forward in the Plan: Alternative S6 to establish a series of Plan specific targets for the specific remit of assessing Plan success and supplementing the EU target regime will be brought forward for assessment under the Plan. These Plan specific targets are presented in Volume II of the Plan.

6.5 Modal Alternatives

6.5.1 Prevention and Segregation through Education versus Regulation

Key: PHH – Population and Human Health; **BFF** – Biodiversity, Flora and Fauna; **LS** – Soils; **W** – Water; **AQ** – Air Quality; **CF** – Climatic Factors; **MA** – Material Assets; **CH** – Cultural Heritage; **LandS** – Landscape.

Background: The 2015 RWMP included three strategic targets including the following target that relates to waste prevention:
1% reduction per annum in the quantity of household waste generated per capita over the period of the Plan.

The evaluation of the RWMP in 2021 identified that this target was not achieved for a range of factors. The evidence base is shown in **Figure 6.3** which shows the data provided by the EPA Waste Statistics for Households. The figure shows the total tonnes of Irish household waste collected between 2010 and 2020 and the percentage change (increase or decrease) from the previous year. The total waste generated is increasing for most years (slight decreases observed in 2012 and 2015) and the linear trend is an upward trend in household waste generation.

Note that the 2020 is a potential anomaly to the baseline trend given the Covid-109 lockdowns and long term working and home residency increasing household waste. Nonetheless the trend is increasing and similar trends are evident for other waste streams such as commercial, construction, etc.

Description of Alternative
Modal Alternative 1 (M1): Achieve the waste prevention and segregation policies of the Plan through enabling and educating consumers (households, commercial operators and all waste generators) to make informed choices and drive the necessary behaviour change.
Modal Alternative 2 (M2): Achieve the waste prevention and segregation policies of the Plan through mandatory regulatory and fiscal measures to drive the necessary behaviour change.

Reference	PHH	BFF	LS	W	AQ	CF	MA	CH	LandS
M1	+	+	+	+	+	+	+/-	0	0
M2	+	+	+	+	+	+	+	0	0

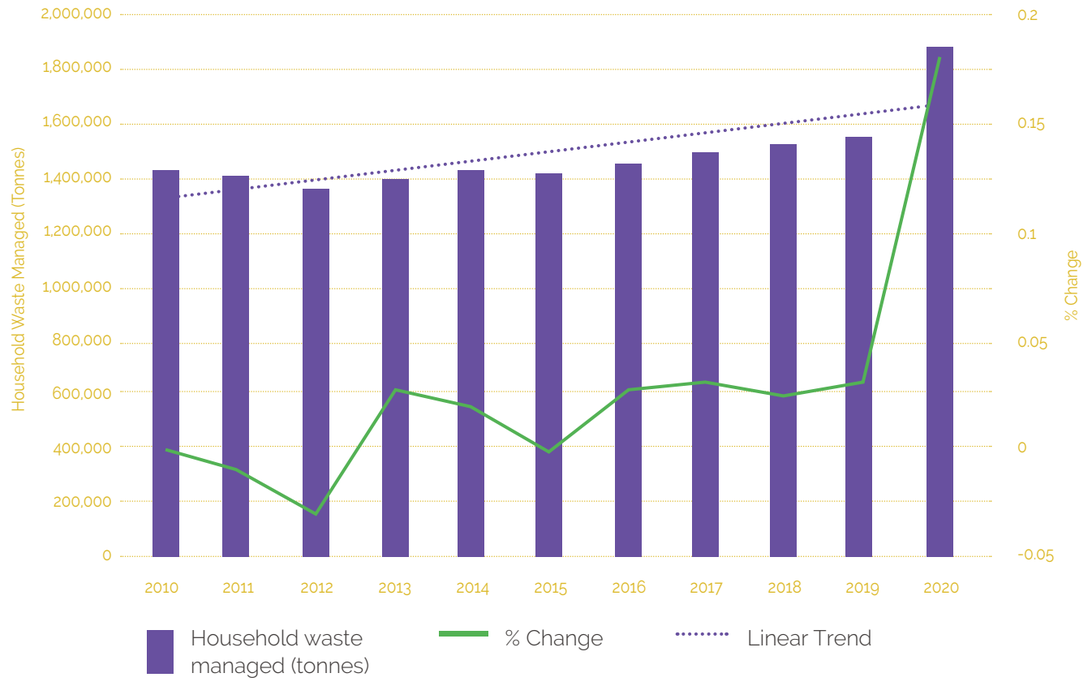

Figure 6.3: Household Waste Managed 2010 to 2020 [Source: EPA]

In summary, the Strategic Target is a measure of public awareness and real behaviour change among households and can be an indicator of wider community awareness on prevention. When this target was set in 2015 it was ambitious and the data shows that the State has not met this target over the RWMP period. The evaluation notes that there remains a pressing need to decouple economic activity from waste generation in the community. The realisation of this goal will take consistent investment for awareness strategies to effect real behaviour change.

Options to drive more meaningful behaviour change to prevent waste (and improve segregation at source) over the period of this Plan may be either softer education measures (Alternative M1) or more fined fiscal and regulatory measures (Alternative M2).

It is acknowledged that a blend of both alternatives may be appropriate as not all waste streams are subject to the same drivers and behaviours.

Discussion: The prevention of waste at source in household, commercial, construction and other sources will have broad environmental positives. Less waste means less transport for collection and less treatment of waste reducing the potential direct adverse impact from collection vehicles (AQ, CF) and from final treatment solutions (LS, W, AQ, CF) and the associated secondary and indirect effects (PHH, BFF, LandS). In this regard, both alternatives will deliver environmental benefits if real prevention levels are delivered regardless of the mode adopted.

Similarly, improved source segregation through either means will have net environmental benefits. Greater use of the organic and recycling bins and the greater quality of material placed in these bins will improve the circular potential of these materials and reduce the need for final treatment. The direct and indirect environmental benefits are analogous to those identified below for prevention.

It is acknowledged that the introduction of regulatory or fiscal drivers (Alternative M2) to drive prevention and segregation may offer potential for greater behaviour change than education and awareness alone (Alternative M1). As such, the benefits offered by M2 may be greater than those offered by M1 but this would be dependent on compliance levels and require additional enforcement.

The main variance between the two alternatives lies with how these measures are funded. Alternative M1 places the financial burden on central and local government to fund the education and awareness campaigns to enable behaviour change. Alternative M2 would be more aligned with the polluter pays principle by using charges and levies that charge consumers for poor performance or choices and incentivise the necessary change. While M1 presents a burden to the State, Alternative M2 places some of that burden on the consumer.

Section 34(7)(f) of the WMA requires that a waste collection permit holder must 'demonstrate by prescribed means if the fees charged for collection or transport of waste incentivise household waste prevention and household waste segregation'. As such, the need to provide an incentivised charging system for household customers is already mandated in the legislation but there have been difficulties in implementing a truly incentivised system and the evidence in **Figure 6.3** shows that to date, this regulation has had little effect. With existing cost of living and energy costs there is unlikely to be an appetite for significant change in the waste charging regime for households. As such, there is unlikely to be any significant impact to the MA baseline for households.

The Circular Economy and Miscellaneous Provisions Act 2022, amends the above regulation to also include 'commercial waste' and to mandate the need for and incentivised charging regime for commercial operators. Commercial operators have an established regime of 'pay-by-use' for utilities including electricity, gas and most recently water.

There is potentially greater potential for a truly incentivised charging regime for commercial waste operators. This would be potentially negative MA for commercial operators but would result in wider environmental benefits if this intervention is applied by DECC.

In addition to the incentivised charging system, Section 11 of the Circular Economy Act includes a mechanism for levies on single use plastics. In addition the WAPCE notes the potential introduction of a virgin plastic levy and a levy on the use of virgin aggregates in construction projects.

In short, Alternative M2 may incur some negative MA impacts over Alternative M1 (where costs are borne by the State) but these costs may result in meaningful change and wider environmental benefits. In addition, any negative MA impact may be reduced by operators through better waste management practices.

Preferred Environmental Alternative and Reason for Choosing: The preferred environmental alternative in this instance is mixed with Alternative M1 remaining the status quo for households in the short term but with Alternative M2 to be applied where the ability for the polluter to play is greater and the waste stream has viable alternatives. This applies to the commercial sector and the construction sector with both streams projected to grow in the short term and potential charges and regulation already signalled.

Alternative Brought Forward in the Plan: Alternative M1 is incorporated within the Plan for areas such as Focus Area 2 Household Waste where the emphasis remains on encouraging behaviour change. Conversely, a mix of Alternative M1 and M2 is employed for Focus Area 1 Commercial with support for an incentivised charging system (policy TP1.5 – supported by the Plan but can only be implemented by DECC) coupled with promotion of means to reduce waste (policy TP1.1). The success in these policies to deliver meaningful waste prevention will be tracked through one of the key targets of the Plan.

6.5.2 Scale of Thermal Treatment

Description of Alternative
Modal Alternative 3 (M3): Develop thermal treatment infrastructure at a scale to meet the current shortfall in residual MSW treatment capacity and reduce the reliance on exports.
Modal Alternative 4 (M4): Develop thermal treatment infrastructure at a reduced scale to account for future prevention mechanisms.

Reference	PHH	BFF	LS	W	AQ	CF	MA	CH	LandS
M3	-	-	+/-	-	-	-	+/-	-	-
M4	-	-	+/-	-	-	-	+	-	-

Key: PHH – Population and Human Health; **BFF** – Biodiversity, Flora and Fauna; **LS** – Soils; **W** – Water; **AQ** – Air Quality; **CF** – Climatic Factors; **MA** – Material Assets; **CH** – Cultural Heritage; **LandS** – Landscape.

Background: Currently, there are six thermal recovery facilities operating in Ireland with the necessary consents to treat residual municipal solid waste. The available and fully consented thermal treatment capacity in 2023 may be summarised as follows:

- Recovery - dedicated thermal treatment at two waste to energy facilities: 910,000 tonnes (fully utilised); and
- Recovery - co-processing at four cement plants: 452,875 tonnes (typically only 64% capacity employed or 310,000 tonnes due to selection requirements for waste type and calorific values).

In short, current available MSW thermal treatment capacity is circa 1.2 million tonnes based on the above capacities and utilisation rates (note consented capacity is higher but underutilised by the cement kilns). A further 458,0000 tonnes of available capacity is provided at three active MSW landfills but further development of landfill is constrained by EU targets (10% or less of waste to be landfilled by 2035). Combined thermal treatment and landfill covers 1.68 million tonnes of residual MSW.

The projections for residual MSW shown in the Plan indicate that levels will reach circa 1.8 million tonnes over the Plan period (with modest growth in the recycling rate) or 1.6 million tonnes (with optimistic growth in the recycling rate) by 2030. The analysis shows a shortfall in treatment capacity of circa 200,000 tonnes per annum by 2030. The EPA waste statistics show that the current shortfall in treatment capacity is being managed through exports.

Figure 6.4 shows the projected residual MSW generation (based on a low, 45%, and high, 50%, projected recycling rate) and available treatment capacity and highlights the 200,000 tonnes of capacity gap for treatment of this waste stream under the modest growth in recycling rate (up to 45% by 2030). If prevention and recycling interventions are unsuccessful, the shortfall in treatment capacity may be as high as circa 300,000 tonnes by 2030.

In line with the principles of self sufficiency, the continued reliance on export is not a sustainable and viable alternative. In addition, as disposal is constrained and recycling only applies to specific waste streams in the short term, the capacity gap is most readily resolved with thermal treatment. Modal Alternative 3 seeks to resolve the projected capacity gap with a 450,000 tonne capacity thermal treatment facility. A facility of this scale would provide significant additional capacity to the market and aid in the reduction of export need for suitable waste streams.

The alternative consideration is smaller scale thermal treatment facility (200,000-300,000 tonnes) which can partially resolve the current capacity gap and reduce the reliance on export (Modal Alternative 4). Note that a facility of such scale would qualify as 'Nationally Important Infrastructure' under the Plan.

Discussion: It is important to note at the outset that thermal treatment plants of all scales will generate emissions to atmosphere (AQ combustion gases and particulates and toxins), greenhouse gases (CF) as well as emissions to water (W). These plants also generate noise and waste (ashes) and all of these direct emissions are regulated through an IE licence and mitigated at consent stage through EIA and AA. It is noted that as the waste is combusted for energy recovery the potential GHG emissions are somewhat offset by reducing the reliance on fossil fuels for other electricity generation.

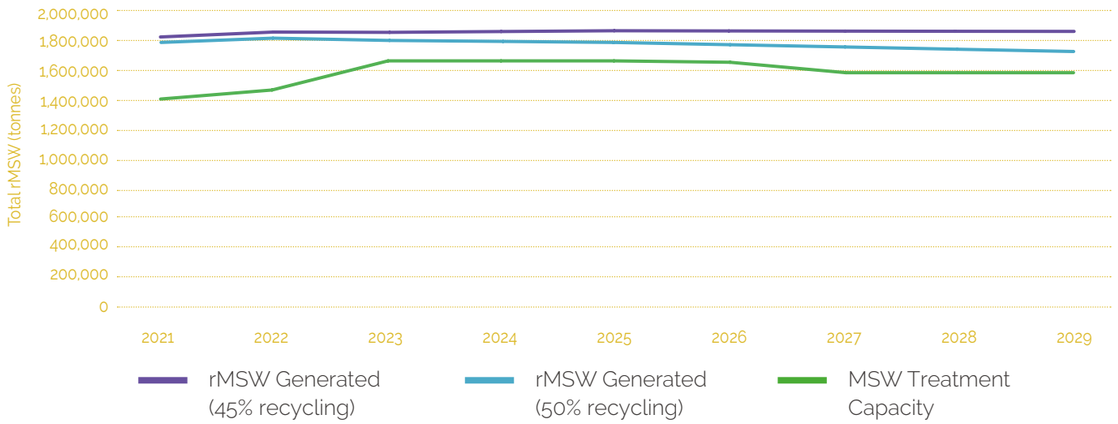

Figure 6.4: Projected Residual MSW Generation and available Treatment Capacity

Secondary impacts on PHH and BFF are also negative for all scales of thermal treatment but will vary with the scale of development and noting the level of regulation. Impacts to soils (LS), cultural heritage (CH) and landscape (LandS) are largely mitigated at consent stage though EIA and the scale of impacts are largely similar.

The main difference between the two options relates to impact on the wider circular economy and waste market. Opting for the large scale thermal treatment plant (M3) will have the short term benefits of resolving the indigenous treatment capacity gap and can result in a shift away from exports or even disposal. A plant of this scale would meet all of the State's capacity needs and provide this secure supply chain for waste management.

However, incentives and policies to prevent waste generation and increase recycling rates may be somewhat compromised if the State invests in a large scale incinerator and commits to utilisation of same. This would have negative MA applications in the medium to long term as the growth of these more circular activities is restricted by a readily available and accessible local recovery solution. On that basis, promotion of a smaller scale thermal treatment plant (M4) has the benefits of providing shorter term recovery capacity but without the development of barriers to prevention, reuse, repair and recycling activities. As such, M4 offers a more optimum solution to meet the current market needs without comprising the further market.

It is acknowledged that the ideal scenario would be one whereby meaningful prevention is achieved and recycling rates significantly increase thereby reducing the volumes of residual MSW generated. Such a scenario would negate the need for development of any additional thermal treatment or other recovery infrastructure. However, this scenario is not considered realistic in the short term as the ongoing capacity issues in the sector need a suitably scaled treatment indigenous solution to resolve current capacity risks.

Preferred Environmental Alternative and Reason for Choosing: The preferred environmental alternative in this instance is Alternative M4, which allows for the promotion of a smaller scale thermal treatment plant with the benefits of providing shorter term recovery capacity but without the development of barriers to prevention, reuse, repair and recycling activities.

Alternative Brought Forward in the Plan: Alternative M4 is incorporated within the Plan specifically through policy TP14.2 - support the development of 200,000-300,000 tonnes of dedicated additional thermal recovery capacity for the treatment of non-hazardous residual wastes nationally, to ensure there is adequate active treatment in the market.

6.6 Spatial Alternatives

Description of Alternative
Spatial Alternative 1 (Sp1): Present policies and actions for the Plan but without any designated spatial distribution of infrastructure or operations.
Spatial Alternative 2 (Sp2): Present policies and actions for the Plan including specific spatial elements for infrastructure or operations.

Reference	PHH	BFF	LS	W	AQ	CF	MA	CH	LandS
Sp1	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-
Sp2	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-

Key: PHH – Population and Human Health; **BFF** – Biodiversity, Flora and Fauna; **LS** – Soils; **W** – Water; **AQ** – Air Quality; **CF** – Climatic Factors; **MA** – Material Assets; **CH** – Cultural Heritage; **LandS** – Landscape.

Background: As a national Plan the focus in this Plan is at the strategic level and typically such national plans do not include a spatial element that dictates locations or areas for infrastructure and operations. The previous RWMP prepared in 2015 took this approach but as regional plans, the policies related to each of the three regions as opposed to nationally. Specifically policy G3 of each of the RWMP set out to 'ensure there is a consistent approach to the protection of the environment and communities through the authorisation of locations for the treatment of wastes'.

To implement this policy, G.3.1 Policy Action G.3.1 was prescribed to 'prepare siting guidelines for waste facilities and review general environmental protection criteria as set down in the waste plan'. The Environmental Report for the SEA of the RWMP noted that the application of siting criteria will offset the potential shorter term temporary construction impacts associate with infrastructure. It was recommended that consideration be given to developing Siting Guidelines in due course to guide development of infrastructure in a sustainable manner which protects the environment and human health.

The RWMPO subsequently developed the 'Waste Management Infrastructure - Guidance for Siting Waste Management Facilities' but outside of the RWMP preparation. The scope of the document includes broad siting criteria and facility specific guidance for consideration when siting a waste facility.

In short, the previous RWMP did not include any specifics in relation to locations of the waste infrastructure supported by the plan policy but did include reference to the need for siting guidelines.

This continued approach to non-spatial policy making (Alternative Sp1) remains a valid approach for consideration in this Plan.

The alternative is to dictate, through policy, the suggested locations for any infrastructure warranted under the policies of this Plan. This may have advantages in terms of rebalancing national infrastructure supply through the move from a set of regional plans to a single national plan. In addition, there is merit to locating circular and waste infrastructure and initiatives close to the source of generation – e.g. MSW treatment infrastructure close to urban centres.

Conversely, stating such spatial needs in the policy can be overly prescriptive for a national policy for a small country. This may hinder the potential for market development and the evolution of circular and waste infrastructure and initiatives where the market dictates. Furthermore, it is acknowledged that all new or expanded infrastructure will be subject to the AA process under the Habitats Directive to acquire the necessary planning and permitting/licensing consents. In addition, any waste operation above a certain threshold will also be subject to the EIA process to acquire the necessary planning and permitting/licensing consents. As such, the local impacts and associated mitigation must be established prior to operation of any site and these spatial elements may be more relevant at project stage rather than policy stage.

Discussion: As noted, the absence of any spatial element to the Plan, project level infrastructure development has a number of regulatory regimes in place to protect the environment both at consent stage and through operations via licensing/ permitting enforcement. As such, both alternatives will have a similar potential for direct impacts to LS, W, AQ, CF and secondary impacts to PHH and BFF. Similarly any adverse impact to CH and LandS are mitigated at consent stage.

There is limited variation in MA as development costs for operators are largely unchanged for Sp1 and Sp2. However, in the event that certain areas or sites are designated for infrastructure under Sp2, the land use policy in the area may alter acquisition costs but these are not considered significant in this analysis.

In short, there is limited variation between the two alternatives considered at project level. However, as noted in the SEA for the RWMP, the development of siting guidelines adds a layer of protection to the environment at policy level that may be further protected at project level through SEA and AA. In this regard, Alternative Sp2 offers a greater environmental protection and is the preferred alternative.

Preferred Environmental Alternative and Reason for Choosing: The preferred environmental alternative in this instance is a variation of Alternative Sp2 where spatial elements are included but in general terms. Area or site specific policies for infrastructure development should not be included but some protection through siting guidelines and rebalancing is warranted.

Alternative Brought Forward in the Plan: Alternative Sp2 is incorporated within the Plan specifically through policy TP11.1 which requires the 'application of the waste facility siting guidance for all new infrastructure'. The implementation through the local land use policy will ensure that the guidance is legislative and must be adopted.

Rebalancing is also adopted under some of the Focus Areas such as policy TP14.3 which aims to monitor Soil Recovery Facility capacity in the market to ensure adequate and appropriate authorisations are in place, in each region, to satisfy the need for soil recovery capacity.

6.7 Overall Preferred Scenario

The overall preferred scenario brought forward for assessment is therefore a combination of strategic alternatives S2, S3 and S6 with modal alternatives M1/M2 blended, M4 and spatial alternative Sp2.

7 MEASURES TO MONITOR SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE IMPLEMENTATION OF THE ADOPTED PLAN

7.1 Introduction

Article 10 of the SEA Directive requires that monitoring be carried out in order to identify, at an early stage, any unforeseen adverse effects due to implementation of a plan, and to be able to take remedial action. Monitoring is carried out by reporting on a set of indicators, which enable positive and negative impacts on the environment to be measured. The environmental indicators of relevance to the plan were identified from the SEA process. These will be used to identify unforeseen adverse effects from implementation of the Plan.

It is acknowledged that remediation of any unforeseen effects is likely to require a more integrated response across agencies, departments, and other authorities and to fully establish the correct response/actions should such effects be identified. **Table 7-1** presents the proposed Environmental Monitoring Programme and the sources of information for monitoring are included in the table.

7.2 Responsibility for Monitoring

Monitoring will focus on aspects of the environment that are likely to be significantly impacted by the Plan. Where possible, indicators have been chosen based on the availability of the necessary information and to show changes that would be attributable to implementation of the Plan.

It is the responsibility of the LGS to coordinate the monitoring of their Plan however it is acknowledged that LGS will, to a large extent, rely on existing monitoring programmes managed, for instance, by other relevant sections within the agency itself. It remains the responsibility of the LGS to liaise with data holders, such as the EPA, to get the data and to report on the monitoring of the Plan.

Table 7-1: SEA Environmental Monitoring Programme

Aim for Monitoring & Environmental Issue Area	What is being monitored?	Target	Indicator	Data Source/ Responsibility	Remedial Action
Monitoring Objective 1: To protect human and environmental health from waste management. Cross-cutting Areas: Population & Human Health Biodiversity, Flora & Fauna Air Quality Water Land & Soil Material Assets	• Extent of three bin coverage. • Levels of unmanaged waste. • Contamination rates in recycling and organic bins.	• Roll out of three bin system nationally. • Reduction in total unmanaged waste.	• Kerbside collection coverage. • Total unmanaged waste.	• National waste statistics Environmental Protection Agency (EPA). • National Waste Bulletin, published annually (EPA). • NWCPO Waste Statistics.	• Identify waste streams with an increasing trend and establish further interventions to curb future growth; • Maintain ongoing targeted waste characterisation surveys from identified high risk sources.
Monitoring Objective 2: To accelerate the transition to the circular economy Cross-cutting Areas: Population & Human Health Material Assets	• Total waste generation. • The national recycling rate. • The national rates or reuse and repair.	• 0% total waste growth. • 1% reduction per annum in the quantity of residual waste generated per capita. • Increase in national MSW Recycling Rate. • 2% reduction per annum in the quantity of construction and demolition waste.	• Total waste per capita. • Quantity of residual waste generated per capita. • Quantity of construction and demolition waste generated. • National MSW Recycling Rate.	• National waste statistics Environmental Protection Agency (EPA). • National Waste Bulletin, published annually (EPA). • National Waste Prevention Programme/ Circular Economy Programme (EPA). • NWCPO Waste Statistics	• Revise and adapt the roadmap to establishing national baselines and performance rates for reuse and repair. • Track the national recycling rate and reuse targets for upper tier (reuse, repair) and lower tier (recovery) operations accordingly

Table 7-1: SEA Environmental Monitoring Programme (Cont'd)

Aim for Monitoring & Environmental Issue Area	What is being monitored?	Target	Indicator	Data Source/ Responsibility	Remedial Action
Monitoring Objective 3: Safeguard the natural environment from development or expansion of collection and treatment infrastructure. Cross-cutting Areas: Land & Soil Biodiversity, Flora & Fauna Water Material Assets	• National collection capacity and infrastructure. • National treatment capacity.	• Development of indigenous sustainable and viable treatment infrastructure that meets national demands with no adverse environmental impact.	• Fraction of indigenous treatment capacity available versus demand. • Total waste exports.	• National Capacity Register (EPA and NWCPO). • National waste statistics Environmental Protection Agency (EPA).	• Revise consenting and enforcement regimes to mitigate any potential adverse impact from existing or new development.
Monitoring Objective 4: Improve air quality and reduce emissions to air from the key issues: thermal treatment, landfill and from transport emissions. Cross-cutting Areas: Air Quality Climatic Factors Human Health	• Trends in the level of thermal treatment of waste. • Trends in the levels of transport of waste as a proxy for emissions to air.	• Aim for an overall decrease in levels of illegal/ backyard burning. • Minimise the distance travelled for waste.	• Number of complaints/ enquiries made on illegal and backyard burning. • Quantify the kilometres travelled by hazardous waste both within the State and through exports (see also Objective 5).	• Enforcement Unit statistics (EPA). • Annual hazardous waste statistics (EPA).	• Review awareness campaigns/ initiatives in relation to air quality issues to improve knowledge and awareness. • Transport statistics requires additional quantification of this distance travelled in the annual EPA hazardous waste statistics (see also Objective 5).

Aim for Monitoring & Environmental Issue Area	What is being monitored?	Target	Indicator	Data Source/ Responsibility	Remedial Action
Monitoring Objective 5: Minimise emissions of greenhouse gases associated with waste management. Cross-cutting Areas: Climatic Factors Air Quality Material Assets	• 0% waste growth in waste generation. • Increase in recycling rates. • Increase in circularity	• Achieve all circular economy targets in the Climate Action Plan.	• Quantify the total waste recovered thermally and disposed of to landfill. • Quantify the volumes of waste of exported and distances travelled to final treatment.	• Annual waste statistics (EPA).	• Requires additional quantification of this distance travelled and the transport types in the annual EPA waste statistics.
Monitoring Objective 6: Prevent and minimise the generation of waste, minimise exports and promote circular economy principles. Cross-cutting Areas: Material Assets Climatic Factors Population and Human Health	• Waste prevention; • The transition to a circular economy; • The capture of all wastes; • Compliance with targets, policy, and legislation.	• 0% total waste growth; • Increase in national MSW Recycling Rate; • Increase in the national Circular Material Use (CMU) Rate.	• Continued downward trends in levels of sectoral waste generation. • Optimised circularity and recycling of collected material streams.	• Waste statistics (EPA). • National Waste Bulletin, published annually (EPA). • National Waste Prevention Programme/ Circular economy Programme (EPA). • Circular Material Use (CMU) Rate.	• Identify waste streams with an increasing trend and establish further interventions to curb future growth.

8 ADDENDUM TO THE ENVIRONMENTAL REPORT

This is the addendum to the Environmental Report for the Plan. This chapter serves two purposes:

1. To provide clarification and/or additional information following comments in the submissions received during the consultation period on the draft Plan and Environmental Report; and
2. To identify where the Environmental Report has been updated in following consideration of comments received in submissions during the public consultation period.

It should be noted that this document supplements and should be read in conjunction with the original Environmental Report. The clarifications and additional information contained herein (shown in *italicised blue text*) have been provided in order to increase the usefulness of the document for the public and decision makers. Significant deletions (such as dates for report publications or incorrect baseline text) are denoted with a strikethrough. The amendments proposed however are not of such an extent that changes to the content or outcome of the assessment contained within the Environmental Report will be required.

8.1 Non-Technical Summary

The following text in the non-technical summary has been updated as follows:
This Plan is the single national plan and will cover the full geographic scope of the State for the period ~~2023 to 2029~~ *2024 to 2030*.

8.2 Chapter 1

The following text in the introduction has been updated as follows and the temporal scope of the Plan is updated through to these years:
The Regional Waste Management Planning Offices (RWMPO) have prepared the Plan, which is the first national waste plan and sets out a framework for the prevention and management of waste in Ireland for the period ~~2022 to 2028~~ *2024 to 2030*.

8.3 Chapter 4

The text on Section 4.3.4 Other Relevant European Instruments, is updated to include the following:
In November 2022, the Commission issued a proposal to revise the Packaging and Packaging Waste Directive to contribute to reaching the objective of ensuring that 'all packaging on the EU market is reusable or recyclable in an economically viable way by 2030'. Article 7 of the proposal sets the minimum recycled content in plastic packaging. While these targets are outside the timeline of this Plan, these targets are included to provide clarity on the scale of potential future targets for the sector.

8.4 Chapter 5

The text on Section 5.5.1 Population and Human Health, is updated to include the 2022 waste characterisation data from the EPA:
~~The EPA Household Waste Characterisation Campaign (November 2018) report presents the composition of the national kerbside collected household waste in Ireland, assessing Mixed Residual Waste (MRW), Mixed Dry Recyclable (MDR) waste and Organic Waste (OW).~~

~~Mixed Residual Waste~~

~~Plastics has replaced organic waste as the most prominent waste category in mixed residual waste averaging 18.6% of the total composition. Plastics comprised supermarket bags and films (packaging) at 6.9%, other plastic (nonpackaging incl. bin bags) at 3.5%. PET, PE and PP packaging comprised 1.2%, 1.3% and 2% respectively.~~

~~The second largest waste category was organic waste (nongarden) averaging 13.6%. The majority was unavoidable food waste averaging 6.1%. Avoidable food waste was 4.6%, still in its packaging, with 2.7% possibly avoidable food waste, and 0.3% liquid fit for human consumption. Organic waste (garden) comprised 2.5%. Organic waste (nongarden) decreased and organic waste (garden) decreased significantly from 2008 to 2018.~~

~~Mixed Dry Recyclables~~

~~The most prominent primary category was papers (34.3%) comprising newspapers (13.3%), magazines and glossy papers (7.0%), other papers (5.3%), tissue papers (1.9%), paper packaging (4.6%), and office papers (2.2%). The papers category showed a significant decrease from 54.0% of the waste in 2008 to 34.3% in 2018. This was largely driven by a decrease in newspapers from 30.6% in 2008 to 13.3% in 2018. The second largest primary waste category was cardboards (24.9%), comprised flat card and corrugated cardboard (packaging) at 24.0%, and other cardboards (nonpackaging) at 0.9%.~~

~~Organic Waste~~

~~The most prominent primary category was organic waste (garden) comprising 55.7% of the composition. This includes materials such as crass clippings, hedge trimmings, etc. Organic waste (nongarden) was the second largest waste category and comprised 28.2% of organic waste collections. The majority of the food waste (22.1%) was 'unavoidable' food waste, with 1.8% 'avoidable' food waste and 3.1% 'possibly avoidable' food waste.~~

In 2022, the EPA undertook a major waste characterisation study of household waste bins. The survey identifies the fractions of waste identified by the EPA in a sample of kerbside household bins. The study reveals that a significant percentage (47%) of kerbside household waste is being placed in the incorrect bin. These non-target materials are wastes which should be segregated into different bins or brought to bring centres.

The household residual bin contains the highest proportion (64%) of non-target materials. These non-target materials, such as food waste, some uncontaminated plastics, papers, metals, and cardboards, should have been placed in the mixed dry recycling bin or the food waste recycling bin or brought to designated bring centres. These materials have a high circular potential if collected and segregated for recycling, which is not currently being realised as these materials are being treated through thermal recovery or landfill via the residual bin. The trend is that non-target materials in the residual bin are increasing.

The mixed dry recycling bin contains 36% non-target materials, including unrecyclable cardboard, textiles, organic waste, paper, fines (the <20mm fraction), and glass. These non-target materials potentially contaminate the mixed dry recycling resource reducing the potential for this material to be recycled.

The food waste recycling bin has shown improvement with non-target materials falling from 2018 (8%) to 2022 (5%). Even low levels of non-compostable materials like plastic, batteries, and glass can adversely affect the circularity of this stream by disrupting the operation of biogas and composting facilities and reducing the quality of products.

The text on Section 5.3.5.2 on Greenhouse Gas Emissions from the Waste Sector, is updated to include the latest data from the EPA for 2022:
The Waste sector generated ~~937.2~~ *867* kilotonnes of GHG in ~~2021~~ *2022* (circa ~~1.5~~ *1.4%* of national emission). For GHG reporting purposes, the waste sector includes landfill, waste-to-energy/incineration, open burning of waste, wastewater treatment, and mechanical/biological treatment. Note this excludes the transport of waste.

Note that Section 5.3.6.2 Waste Generation and Management and Section 5.3.6.2 Infrastructure include details of the baseline generations rates and treatment capacity in 2019 as per the data presented in Volume I of the draft Plan. Updated baseline data for 2021 is available and is included in Volume I of the final Plan. This updates baseline data has been reviewed to assess the potential significance for the SEA and it is considered that there is no material change to the assessment presented in the Environmental Report from the updated data.

Rialtas Áitiúil Éireann
Local Government Ireland

REGIONAL
WASTE
MANAGEMENT
PLANNING OFFICES