

PART 1 BACKGROUND

1 INTRODUCTION

1.1 A NEW WASTE PLAN FOR A NEW REGION

In 2012, the Government's blueprint for a circular waste economy, as set out in *A Resource Opportunity – Waste Management Policy In Ireland*, established a new framework for the provision of effective and efficient waste management services through the establishment of three new waste management planning regions. The Southern Region (SR), serving a population of 1,541,439, includes the administrative areas of the following local authorities – Carlow County Council, Clare County Council, Cork City Council, Cork County Council, Kerry County Council, Kilkenny County Council, Limerick City & County Council, Tipperary County Council, Waterford City & County Council and Wexford County Council.

Managing waste in a “sustainable and self-sufficient manner” will be one of the key challenges for the region, and one in which every citizen has a role to play. How we manage our waste says a lot about how highly we value our environment. There is consensus that we should minimise our impact on the environment by working collectively to minimise the amount of waste we generate, and manage the waste we do create in the best manner possible.

The EU Waste Framework Directive (WFD), published in 2008, has resulted in revisions to the waste hierarchy, the principles of proximity and self-reliance and waste treatment definitions. The Directive places a greater emphasis on optimising resource efficiency, prevention, reuse and the recovery of mixed residual wastes. These are important changes which have been addressed in the preparation of this plan.

The region has made significant progress during the lifetime of previous plans, but challenges remain. For example, the roll-out of the organic waste collection system at household and commercial level needs further expansion. On the infrastructural side, the region is well provided for in terms of pre-treatment capacity to mechanically process recyclable wastes, and residual waste to a lesser extent. There remains a gap in end-of-chain residual waste treatment capacity, resulting in an increase in exports of waste. The plan provides a framework within which all stakeholders can make a contribution to the successful implementation of the policies it contains.

1.2 THE WASTE PLAN

The plan is presented in three parts, beginning with **Part 1 – Background**, which sets out the strategic and policy context for the plan including a detailed profile of the region. **Part 2 – Present Position** sets out the existing situation with regard to waste data, prevention and reuse activities, waste collection and infrastructural arrangements and the management of priority waste streams. **Part 3 – Implementation** deals with waste projections, infrastructure planning and the roles and responsibilities of the various stakeholders in the delivery of the plan. It also provides a financial overview and detailed breakdown of policies, actions and targets to be achieved and concludes with the arrangements for monitoring and reporting on the plan strategy, objectives, policies and actions.

Chapter 5 sets out the strategic vision for the plan, with an emphasis on the progression from a linear waste economy to a circular one. The mandatory and headline performance targets which have been developed for the plan are described in this chapter. The strategic approach incorporates well-established principles, and eight overall strategic objectives have been developed for key policy

areas over the duration of the plan. The evolution of plan policies has been prepared by the local authorities in response to key issues relating to policy, market or implementation needs. In shaping the policies the local authorities have considered potential environmental implications through the Strategic Environmental Assessment (SEA) process and incorporated protection measures into the final policies to mitigate potential impacts. The policies are presented throughout the chapters in the plan directly in response to the relevant issue. All of the plan policies, with the exception of those in infrastructure, are brought together along with the actions required for their implementation in **Chapter 19**.

Figure 1-1 illustrates the roadmap from strategic vision to action on which the plan has been constructed.



Figure 1-1 Strategic Vision to Actions Roadmap

Chapter 19 assigns responsibility to the various actions described and allocates an indicator through which the action can be measured, and a target date by which the action must be achieved.

The plan therefore is not only strategically driven but action-led, with accountability tracked to ensure successful outcomes.

1.3 STRATEGIC ENVIRONMENTAL ASSESSMENT AND APPROPRIATE ASSESSMENT

Strategic Environmental Assessment (SEA) is a process by which environmental considerations are integrated into the preparation of plans and programmes prior to their final completion. The objectives of the process are to provide for a high level of protection of the environment and to promote sustainable development by contributing to the integration of environmental considerations into the preparation and adoption of specified plans and programmes. The SEA process also gives interested parties an opportunity to comment on the environmental impacts of implementation of a proposed plan or programme and to be kept informed during the decision making process. In accordance with Article 9 of S.I. 435 of 2004 (as amended), the lead authority for the SR carried out an SEA which informed the plan, and this is available as a separate document.

The EU Council Directive 92/43/EEC on the conservation of natural habitats and wild flora and fauna, better known as the *Habitats Directive*, provides legal protection for habitats and species of European importance through the designation of an EU-wide network of sites known as Natura 2000. These sites are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Birds Directive (2009/147/EC). Article 6(3) of the Habitats Directive establishes the requirement for Appropriate Assessment (AA) of plans and projects likely to affect European sites. An AA of the SR Waste Management Plan was carried out in parallel to the SEA process and is available as a separate document. **Figure 1-2** illustrates the roadmap for the SEA and AA processes.



Figure 1-2 SEA and AA Roadmap

All of the SEA stages illustrated in **Figure 1-2** have been completed for the plan. The final stage, the SEA Statement, will be prepared following the consideration of submissions made during the consultation period on the draft plan and environmental report.

Critical to the successful application of the SEA and AA processes is the integration with the plan making. This has been achieved for this plan through close integration of all stages of the plan making, as illustrated in **Figure 1-3**.

1.4 CONSULTATION

Public consultation is a fundamental part of the waste planning process. In order to fulfil the statutory requirements for consultation for the making of the waste management plan, local authorities must comply with Section 23 of the Waste Management Act 1996 and the Waste Management (Planning) Regulations 1997. This provides an opportunity for all stakeholders in the region to raise issues prior to the preparation of the draft plan and also following its publication.

1.4.1 Pre-Draft Consultation

An advertisement was placed in the *Irish Independent*, *Irish Times*, *Irish Examiner* and on local authority websites on 10 October 2013 indicating the intention of the lead authority to prepare a new waste plan for the region and inviting written submissions for consideration. In total 38 submissions were received from a variety of sources, as indicated in **Figure 1-4**.

The submissions received related to a wide range of waste issues including waste prevention, reuse, pay-to-use units (PTUs), uncollected wastes, level playing pitch for waste contractors, consistent enforcement and consistent waste projections. The submissions have been grouped into 13 categories and percentage of submissions received in each category is illustrated in **Figure 1-5**. Further details of the pre-draft submissions received are provided in the *Southern Region Waste Plan – Pre-Draft Submission Report* (SR, 2014).

As a part of the consultative process a national briefing/consultation meeting was held with key stakeholders in Mullingar on 9 April 2014. Common concerns among stakeholders included the planning/permit process, prevention/awareness measures, waste regulation and enforcement, charging systems, movement of waste, infrastructure/facilities and projections/statistics.

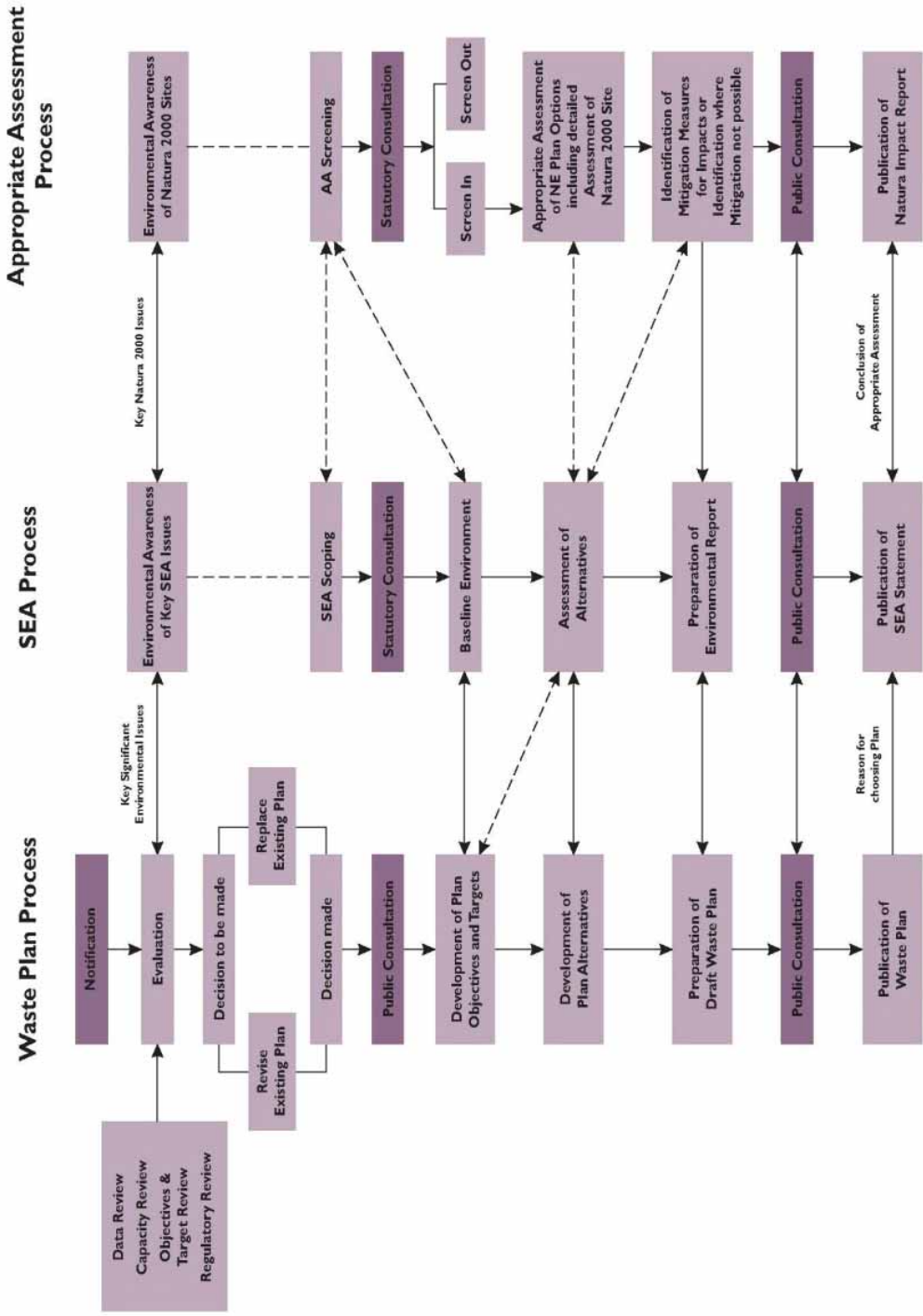


Figure 1-3 Integration of Processes

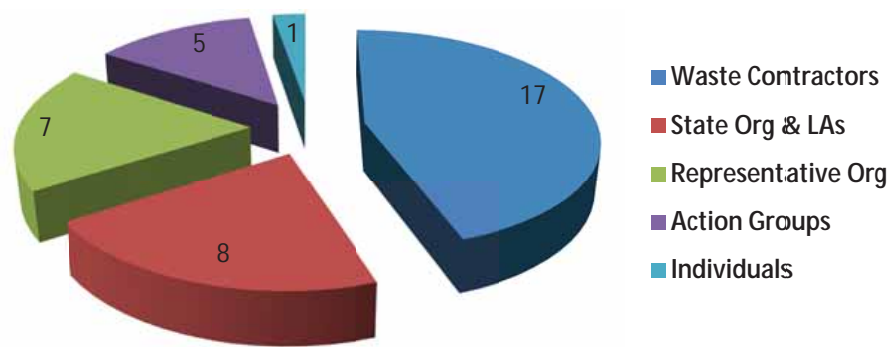


Figure 1-4 Sources of Submissions Received in the Southern Waste Region

Submissions and meetings provided constructive suggestions, numerous ideas and initiatives for consideration in the preparation of a draft SR waste plan. A list of workshop attendees and the sources of written submissions are included in **Appendix A**.

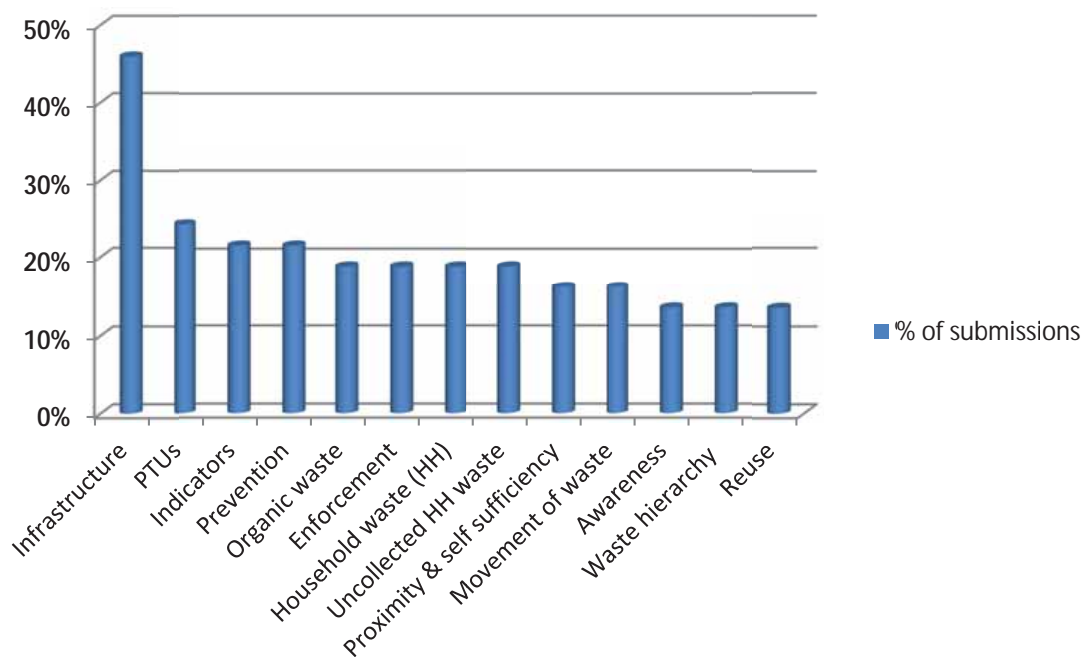


Figure 1-5 Percentage of issues raised per category of submission

Article 6 of the SEA Directive states that the competent authority preparing the plan or programme is required to consult with specific “environmental authorities” (statutory consultees) on the scope and level of detail to be included in the Environmental Report. The statutory consultees for SEA as established in national legislation are the:

- Environmental Protection Agency (EPA);
- Department of the Environment, Community and Local Government (DECLG);
- Department of Arts, Heritage and the Gaeltacht;
- Department of Communications, Energy and Natural Resources (DCENR);

- Department of Agriculture, Food and the Marine; and
- Northern Ireland Environment Agency (NIEA).

A scoping workshop was subsequently held on 23 June 2014 at the Custom House, Dublin which was coordinated for all three waste management regions. Representatives from all statutory consultees were invited to attend this workshop. The following groups were represented on the day: SEA & Plan team for Southern, Eastern-Midlands and Connacht-Ulster Regions; DECLG; DCENR, Inland Fisheries Ireland (IFI) and the EPA.

In addition a period of public consultation (4 June to 4 July 2014) was applied to the SEA Scoping Document. A total of six non-statutory submissions and five statutory submissions were received and given due consideration in advance of the environmental assessment of the plan.

1.4.2 Post-Draft Consultation

The Southern Draft Regional WMP 2015–2021 was launched on 18 November 2014, in Galway City Council offices, as part of a national launch of the three draft regional WMPs. The Chief/Deputy Chief Executives of the waste management planning lead authorities formally jointly launched the draft regional WMPs along with the associated Natura Impact Report and Strategic Environmental Assessment (SEA) Environmental Report.

The draft plan was the subject of public consultation between 18 November 2014 and 30 January 2015. The public consultation process consisted of the following.

- Statutory notifications:
 - A newspaper notice was published in the *Irish Examiner*, *Irish Independent* and *Irish Times* on the 18 November 2014; and
 - A letter was forwarded to prescribed bodies in accordance with Section 23 of the Waste Management Act and the Waste Management (Planning) Regulations 1997.
- Non-statutory notifications – the SR notified the following bodies:
 - EPA waste licensed facilities;
 - Local authority waste permitted facilities;
 - Authorised waste collectors (the NWCPO notified the collectors on behalf of the region); and
 - Local Authority Environment Director of Services within the SR.
- Specific measures were taken to inform the members of the public, including:
 - Press releases;
 - Information Leaflet – “We Want your Input – On One More Thing....”;
 - Radio campaign; and
 - Social media.
- Presentations were made to the elected members of the local authorities, to local authority staff and the waste sector.

A total of 95 submissions were made in relation to the draft plan (a full list of the submissions is included in **Appendix A**). Twenty-eight of these came from members of the public and these were subdivided into the draft plan targets and objective headings.

Figure 1-6 shows that over 40% of the public submissions dealt with the resource efficiency/circular economy and prevention objectives while a significant number also dealt with the infrastructure objective (33%).

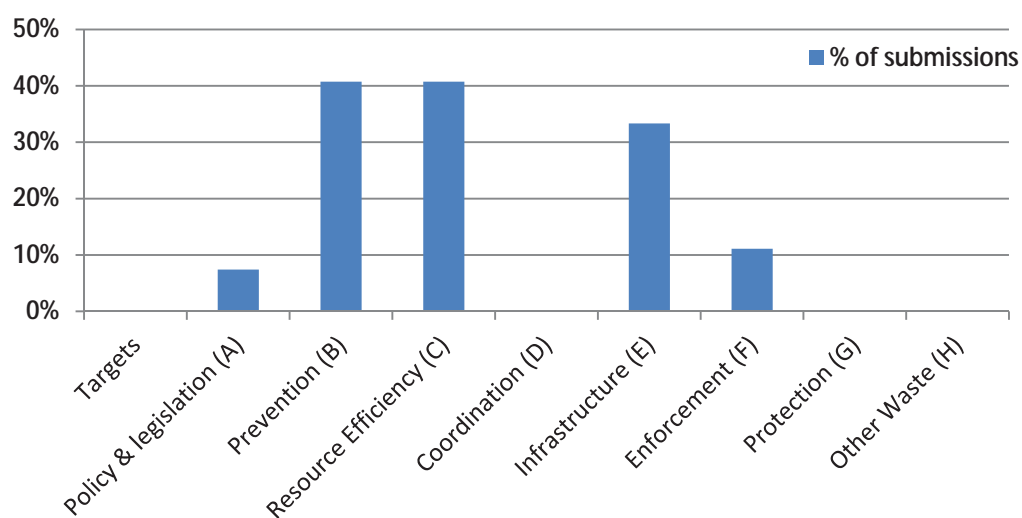


Figure 1-6 Issues Raised in the Public Submissions

A total of 67 submissions were received from various organisations and waste contractors, of which 57% were from organisations or companies based within the region. The source of the submissions has been subdivided into a number of categories (**Figure 1-7**).

Similarly to the public submissions, the submissions received were subdivided into the draft plan targets, objective headings, Natura Impact Report and SEA Environmental Report. **Figure 1-8** illustrates the percentage of the submissions received which dealt with the various categories.

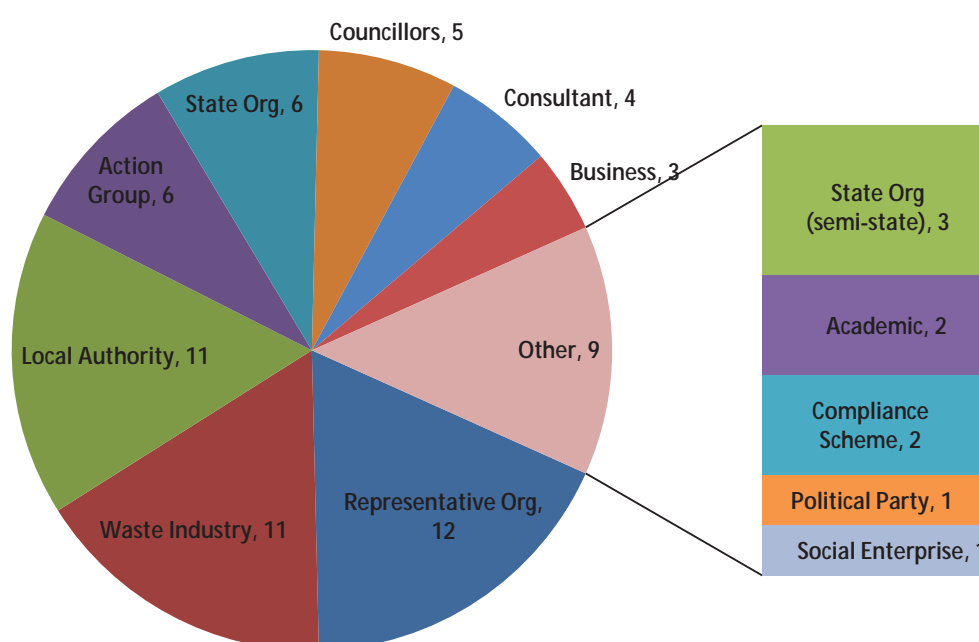


Figure 1-7 Source of the Submissions from Various Organisations & Waste Contractors

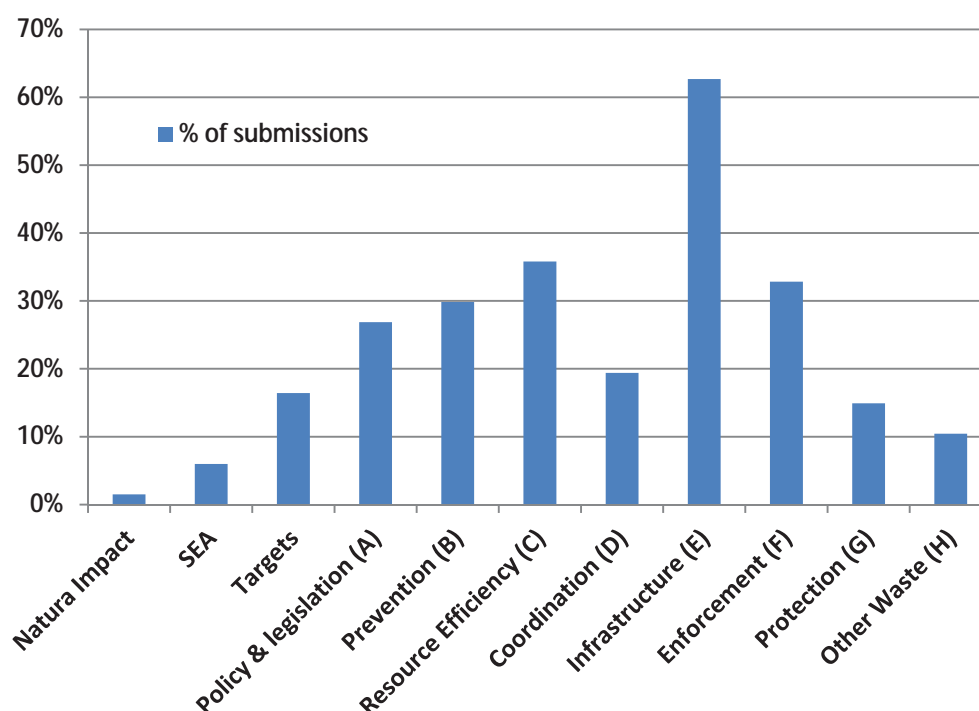


Figure 1-8 Issues Raised in the Submissions

As is evident from **Figure 1-8**, the submissions received dealt with all areas; however, over 60% dealt with the infrastructure objective, of which a significant number dealt with policies E15 (in relation to the plan's support of up to 300,000 tonnes of additional thermal recovery capacity) and E17 (in relation to the plan's support of up to 40,000 tonnes of additional biological treatment capacity).

Further details of the post-draft submissions received are provided in the *Southern Region Waste Plan – Post-Draft Consultation Report* (SR, 2015).

2 REGIONAL WASTE PLANNING FRAMEWORK

This chapter provides an overview of the regional waste management plan in the context of the statutory planning system.

2.1 PURPOSE OF THE REGIONAL WASTE PLAN

The waste management plans in Ireland are statutory planning documents. Their objective is to set out a framework for the prevention and management of wastes for a defined regional area. The preparation of the waste plans is the statutory responsibility of the local authorities, and two or more local authorities may jointly prepare a waste plan. Once prepared, a plan is valid for a period of up to six years and under statutory obligation must be evaluated once every six years.

Ireland's most recent waste policy statement¹ recommended that the number of waste management planning regions be reduced from 10 to three. This recommendation was guided by the national programme of reform of local government arrangements and the benefits identified under the programme of rationalising the regions in terms of the concentration of local authority resources. The new regional structures also better recognise the nature of the Irish waste market and the movement of waste in the State. The County and City Managers' Association (CCMA) formally adopted the new regional assembly of local authorities from a waste management perspective with the name, lead authority and make-up of the regions described in **Table 2-1** and illustrated in **Figure 2-1**.

Table 2-1: Details of the New Waste Regions

Waste Region (No. of Local Authorities)	Lead Authority	Local Authorities
Eastern-Midlands Region (12)	Dublin City Council	Dublin City Council; Dún Laoghaire-Rathdown County Council; Fingal County Council; South Dublin County Council; Kildare County Council; Louth County Council; Laois County Council; Longford County Council; Meath County Council; Offaly County Council; Westmeath County Council; Wicklow County Council
Southern Region (11)	Limerick City and County Council & Tipperary County Council	Limerick City and County Council; Tipperary County Council; Wexford County Council, Carlow County Council; Kilkenny County Council; Waterford City & County Council; Cork City Council; Cork County Council; Kerry County Council; Clare County Council
Connacht-Ulster (9)	Mayo County Council	Mayo County Council; Donegal County Council; Cavan County Council; Monaghan County Council; Leitrim County Council; Roscommon County Council; Sligo County Council; Galway City Council; Galway County Council

¹ A Resource Opportunity, Waste Management Policy in Ireland (July 2012).

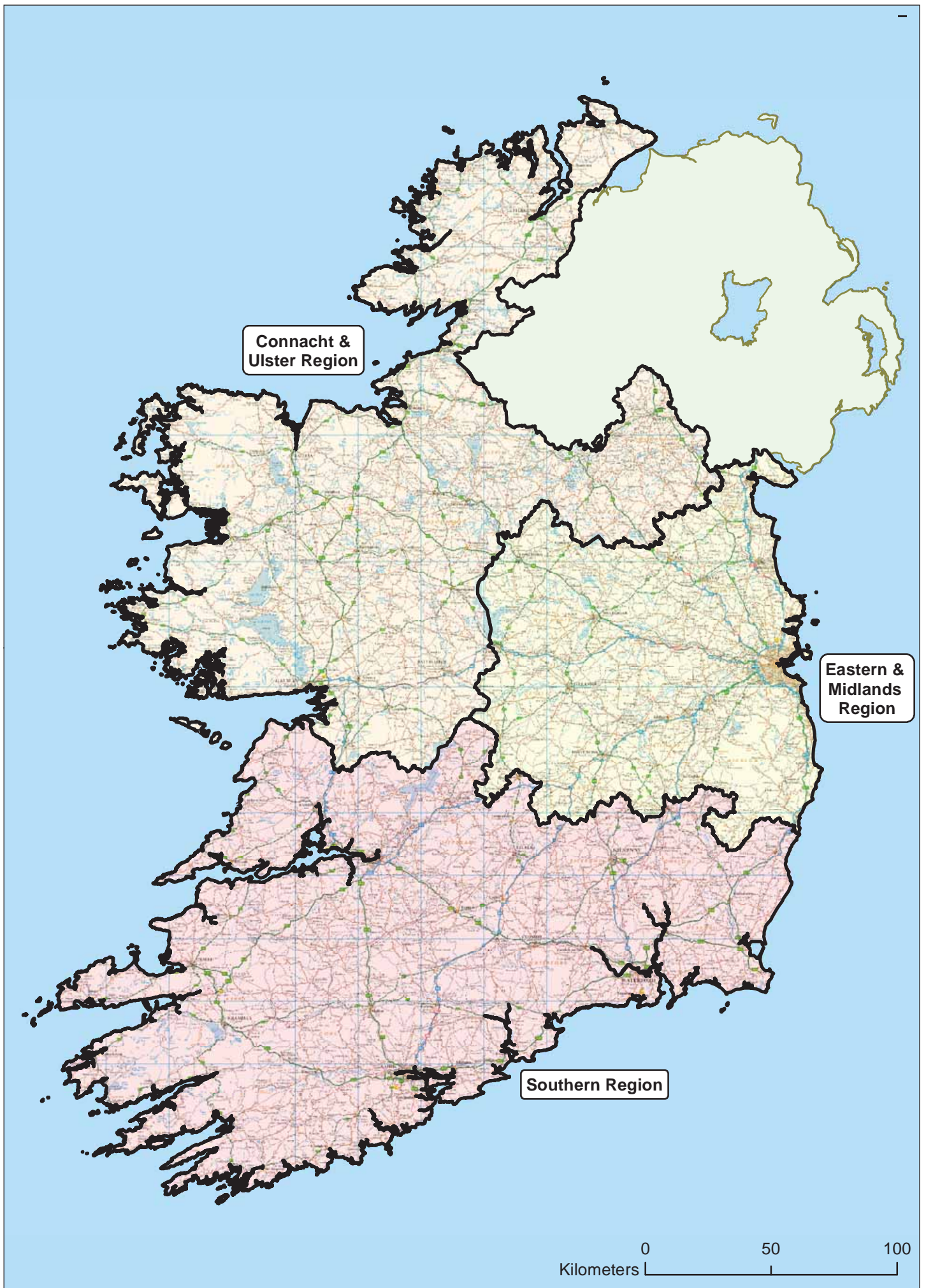


Figure 2-1 Waste Regions of Ireland

The required content of the waste management plan is described in the Waste Management Act 1996² and the Waste Management (Planning) Regulations 1997 (as amended).

In preparing this plan, the local authorities have considered their relevant statutory obligations and the European Commission's guidance document³ on waste plans and have reviewed recommendations from other relevant strategic planning documents such as the:

- National Hazardous Waste Management Plan 2014–2020;
- National Waste Prevention Programme; and
- Our Sustainable Future, a Framework for Sustainable Development (2012)

Following a review of the format of previous plans, the new plan is set out over three parts and is designed to be an accessible and usable document. The policy objectives and actions set out a roadmap for improved waste prevention measures and management of waste, while safeguarding the environment and health of communities in the region.

2.2 PLANNING FRAMEWORK

In Ireland, planning and development is governed by a hierarchy of strategic frameworks and plans. The waste plan is part of this structure and its position in the context of national and regional plans is shown in **Figure 2-2**.

The highest tier of planning is described in the National Spatial Strategy (NSS) 2002–2020, which set out to achieve balanced regional development while acknowledging the importance of Dublin as the economic centre of the country. The fundamental objectives of the strategy have not been properly implemented, and in 2013 the Government signalled that the process of replacing the existing document was to commence. A replacement framework is due to be published in 2015.

The implementation of the planning strategies outlined in the NSS is needed at regional level, in particular regional planning guideline documents, to provide the link between the national and local planning frameworks. Spatial planning at a regional level must work within the overall approach, giving effect to national objectives, as well as guiding the preparation of county and city development plans and other plans, such as the waste plans. The relevant Regional Planning Guidelines (RPGs) currently in force in the SR are:

- Regional Planning Guidelines for the South West Region (includes Cork City and County and County Kerry) 2010–2022;
- Regional Planning Guidelines for the Mid-West Region (includes County Clare, Limerick City and County and North Tipperary) 2010–2022; and
- Regional Planning Guidelines for the South-East Region (includes Waterford City and counties Carlow, Kilkenny, South Tipperary, Waterford and Wexford) 2010–2022.

Each of the RPGs listed above contains strategic recommendations to be considered in the waste plan. In brief, the recommendations focus on greater coordination of activities across the planning catchment area to provide economies of scale for the development of facilities. Key treatment

² Sections 6, 7 & 8 of the Waste Management Act as amended.

³ Preparing a Waste Management Plan, A methodological guidance note, European Commission (2012).

infrastructure, such as energy recovery and biological treatment to help divert waste from landfill, is also highlighted.

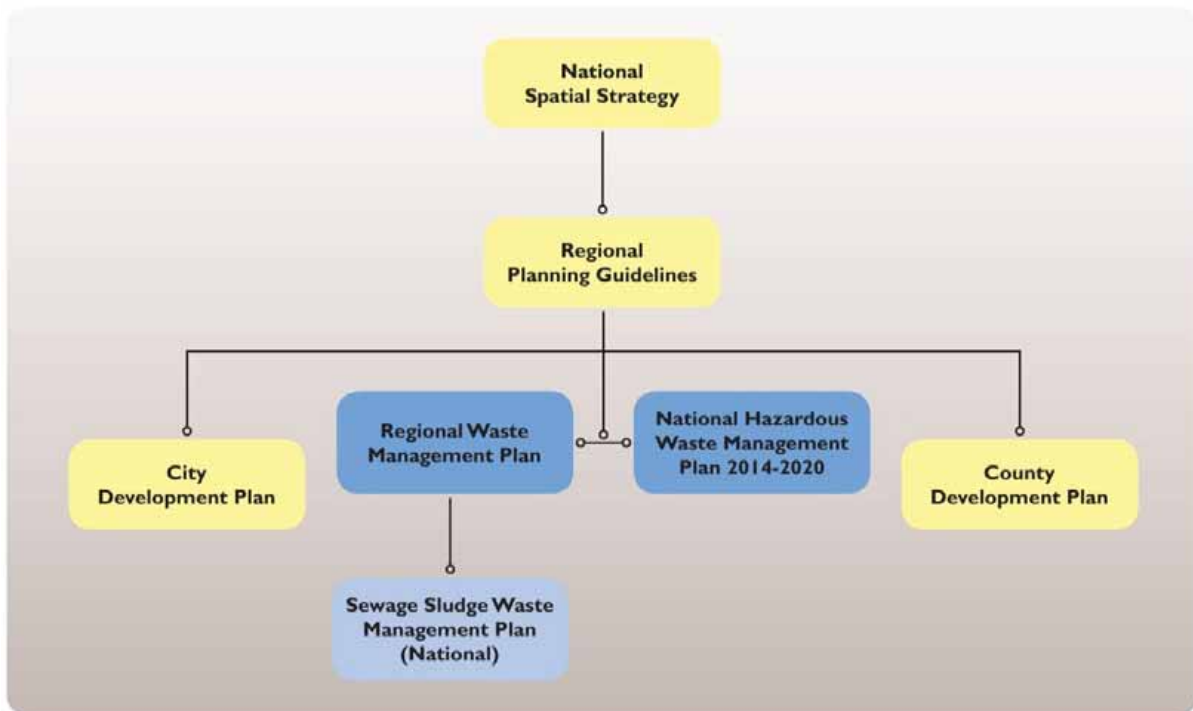


Figure 2-2 Hierarchy of Irish Planning Frameworks

The existing organisation of regional planning authorities in Ireland is being replaced, in line with the local government programme of reform. From 2015 the number of planning authorities will be reduced from eight to three, with the new assemblies mirroring the regional arrangements for waste management.

The waste plan is a statutory planning document setting out policies for the development of waste treatment infrastructure and sits on the same planning tier as the city and county development plans. In Ireland, development plans are the blueprint for local planning and development. Each plan sets out the planning policies of a local authority over a six year period.

These local planning frameworks are deemed (under law) to contain the objectives of the relevant waste management plan in force for that particular area⁴.

In the event of a conflict arising between an objective in the waste plan and that of a city or county development plan, the waste plan objective takes precedence and permission may be granted⁵.

⁴ Section 10A (a) Waste Management Act 1996.

⁵ Section 10A (b)(i) Waste Management Act 1996.

2.3 INTERACTION WITH OTHER WASTE PLANS

The waste plan interacts with other statutory and non-statutory waste planning documents including high-level strategies as follows.

- National Hazardous Waste Management Plan (NHWMP) – this plan is a statutory document prepared by the EPA. Local authorities are required to consider the information provided in the NHWMP when preparing the objectives and actions of the waste plan and to take relevant recommendations in that plan into account.
- National Implementation Plan on POPs, 2012 – this plan is prepared by the EPA in accordance with Article 7 of the Stockholm Convention and covers waste such as electrical equipment containing polychlorinated biphenyls (PCBs), other WEEE and wastes that emit POPs when combusted.
- National Waste Prevention Programme – this statutory strategic plan sets out the framework for waste prevention and resource efficiency in Ireland. It seeks to work in partnership with the newly established waste planning regions and this integrated approach is reflected in the waste plan.
- Sludge Management Plan – sludge management plans are prepared by Irish Water and a national plan for the management of wastewater sludge is currently being written. The plan does not have a statutory basis although the sludge plan is recognised as a component of the waste plan. Key objectives of the sludge plan are incorporated into the waste plans.

2.4 PLANNING PROCEDURES FOR WASTE FACILITIES

Planning permission applications for waste management facilities, with the exception of those classed as Strategic Infrastructure Developments (SIDs), are processed by local authorities. Applications are considered in the context of planning development legislation, the objectives of the regional waste plan, the local development plan, and any other relevant planning document. If an application is refused the applicant can appeal the decision to the national planning authority, An Bord Pleanála.

For specific private and public strategic infrastructure developments, including certain waste treatment developments, an applicant can apply⁶ for planning approval directly to An Bord Pleanála, bypassing the relevant local authorities. The Planning and Development Act 2000 (7th Schedule), lists the classes of infrastructural development which will be considered by the Board as SIDs.

Waste projects that will be considered for strategic application status consist of the following:

- A waste disposal installation for (a) the incineration, or (b) the chemical treatment, or (c) the landfill, of hazardous waste;
- A waste disposal installation for (a) the incineration, or (b) the chemical treatment, or (c) the landfill, of non-hazardous waste with a capacity for an annual intake greater than 100,000 tonnes; and
- An installation for the disposal, treatment or recovery of waste with a capacity for an annual intake greater than 100,000 tonnes.

⁶ Under the Planning and Development (Strategic Infrastructure) Act 2006, which amends the Planning and Development Act 2000.

Prior to making an application directly to the Bord, the applicant must first receive a notice in writing from it confirming that the subject of the application meets one or more of the following conditions and qualifies as strategic infrastructure:

- The development would be of strategic economic or social importance to the State or the region in which it would be situated;
- The development would contribute substantially to the fulfilment of any of the objectives in the NSS or in any regional planning guidelines in force in respect of the area or areas in which it would be situated; and
- The development would have a significant effect on the area of more than one planning authority.

The decision as to whether or not an application qualifies for strategic status is made by the Bord at the conclusion of the pre-application consultation phase.

3 WASTE AND RESOURCE POLICY AND LEGISLATION

There is a significant book of statute and policy statements governing the management of waste in Ireland. European policy and legislation provides much of the basis for our national policy for managing waste. This relationship between European and Irish legislation is shown in **Figure 3-1**.

Waste and resource policy and legislation in Europe and Ireland is extensive and often complex. The European Parliament and the Council of the European Union adopts European waste Directives and each Member State is responsible for transposing the Directive into their national statute book by an agreed date.

There are also European Regulations. These are legislative instruments of general application which are binding in their entirety. Member States must apply a Regulation in its entirety, they cannot choose apply only those provisions of which it approves. Regulations are directly applicable and do not need to be transposed into national law by the respective Member States in order to take effect in national legislation.

Irish waste legislation is made up of (1) a primary Act, the Waste Management Act 1996, (2) statutory instruments or waste regulations and (3) other related legislation. A hierarchical structure governing the management of wastes exists and for the purpose of this plan, the waste legislation and policy presented in this section has been grouped under the following headings:

- Waste framework legislation and policy;
- Waste treatment and movement legislation and policy;
- Waste stream legislation including extended producer responsibility for specific wastes; and
- Other relevant waste regulations.

This chapter summarises the principal waste policy and legislation which will affect the management of waste and material resources in the region over the duration of the plan. A full list of waste legislation is given in **Appendix B** and more detail on each instrument can be found in the national statute archives⁷. The legislation and policy included in this section includes reference to cross-cutting statutory instruments from the energy and wildlife sectors.

3.1 WASTE FRAMEWORK LEGISLATION AND POLICY

Waste framework legislation establishes the legal structure for the prevention and management of waste. Legislation also governs reporting on waste generation, waste treatment and waste capacity, and sets down mandatory waste targets (whether these are targets for diversion, collection or treatment). The European Commission has prepared waste framework legislation to govern this broad approach and the principles for managing waste across all Member States. The principal European framework legislation is:

- European Directive (2008/98/EC) on Waste (Waste Framework Directive);
- Council Decision (200/532/EC) establishing a list of wastes; and
- Regulation (1013/2006) on the shipments of waste.

⁷ www.irishstatutebook.ie

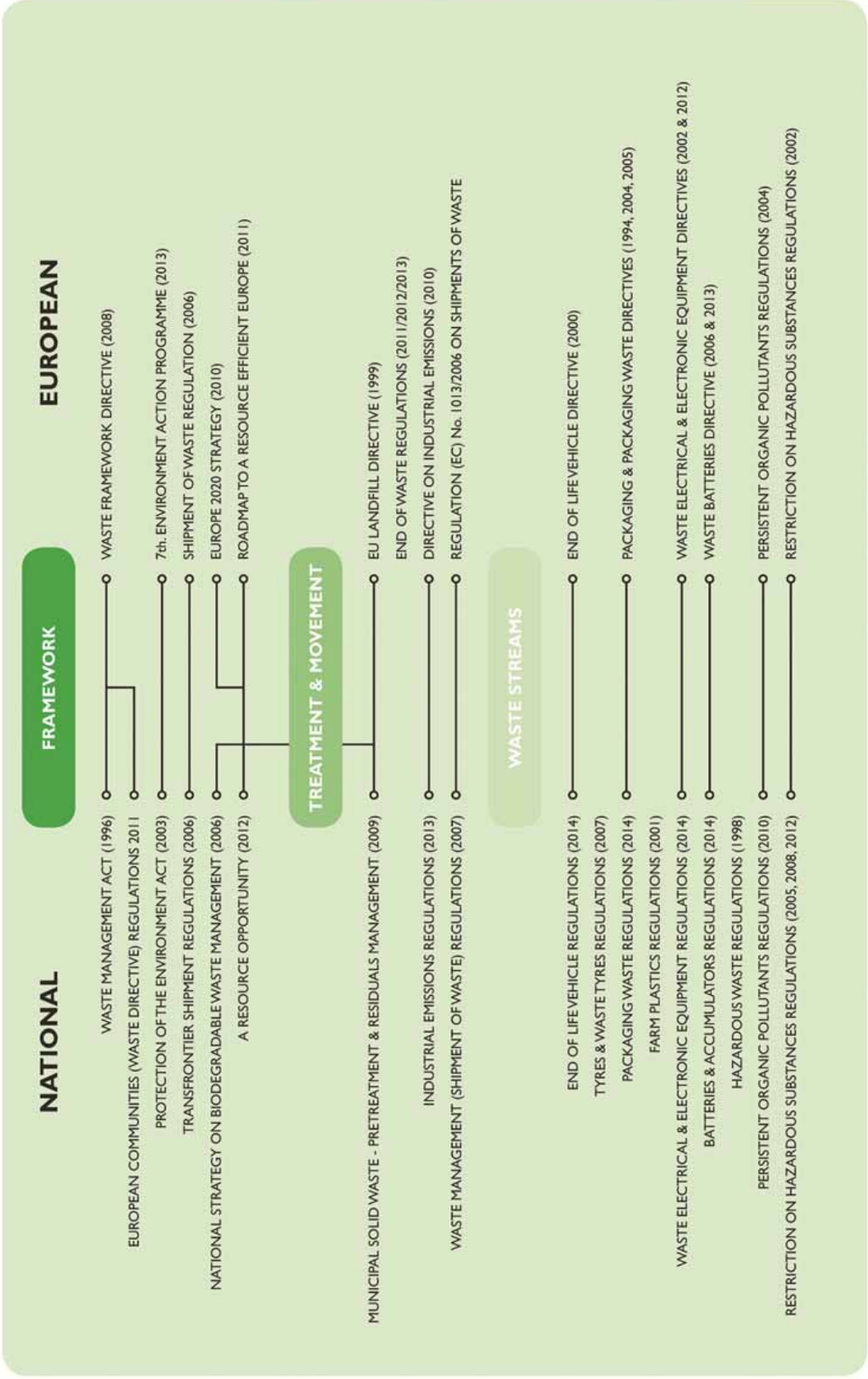


Figure 3-1 Mapping European and Irish Waste Legislation & Policy

3.1.1 Waste Framework Directive 2008 (2008/98/EC)

The Waste Framework Directive (WFD) incorporates the provisions of previous separate Directives on waste oils and hazardous wastes which have since been repealed. The WFD provides the overall structure for an effective and safe waste management regime in Europe and was transposed into Irish law in 2011.

The Directive describes the basic concepts and definitions related to waste management, such as the definition of waste, recycling and recovery. It gives Member States the provision to take action to encourage the prevention, recycling and processing of waste and also provides direction on important waste principles such as the polluter pays principle, extended producer responsibility, self-sufficiency and proximity. The Directive requires Member States to adopt waste management plans and waste prevention programmes. Waste management plans are to be evaluated at least every six years and revised as appropriate. An outline of the contents of the waste management plans is also set out in the Directive.

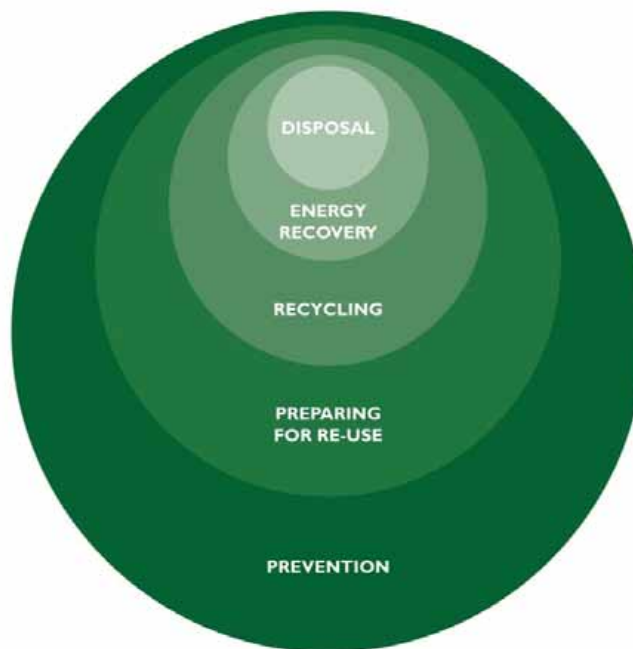


Figure 3-2 Revised Waste Management Hierarchy

The Directive sets out a waste hierarchy which is a priority order (**Figure 3-2**) of what constitutes the best overall environmental option in waste legislation and policy. Departing from the hierarchy may be necessary for specific waste streams, for example due to technical feasibility, economic viability or environmental protection, and may be supported through life cycle thinking.

The WFD also requires that Member States establish an integrated and effective network of installations for (1) waste disposal and (2) the recovery of mixed municipal wastes. Member States must ensure that those who store waste handle it properly, and waste treatment operations must be licensed. The WFD has set new targets for Member States to achieve by 2020, requiring:

- 50% preparing for reuse and recycling of certain household and similar waste materials; and
- 70% preparing for reuse, recycling and other recovery of construction and demolition waste.

3.1.2 European Council Decision on List of Wastes (2000/532/EC)

This Decision established a list of codes used to classify all waste. A distinction is made between hazardous and non-hazardous wastes and the list has been designed to provide a consistent waste classification system across the EU. The formal list of European Waste Catalogue (EWC) codes is contained in this Decision. Member States use the list of codes to record the types and quantities of wastes handled and managed.

3.1.3 European Community Regulation on Shipments of Waste (1013/2006)

This Regulation regulates the supervision and control of shipments of waste in a way which takes account of the need to preserve, protect and improve the quality of the environment. Its aim is to reinforce, simplify and specify the existing procedures for controlling waste shipments. It reduces the risk of waste shipments not being controlled and also seeks to include into Community legislation the amendments to the lists of waste annexed to the Basel Convention⁸ as well as the revision adopted by the Organisation for Economic Cooperation and Development (OECD) in 2001.

This Regulation reduces the number of lists of waste authorised for shipment from three to two, corresponding to the two control procedures:

- The procedure for prior written notification and consent: applicable to all shipments of waste intended for disposal, mixed waste, and hazardous and semi-hazardous waste intended for recovery; and
- The procedure in which shipments are accompanied by certain information, applicable to non-hazardous, single stream material destined for recovery.

Wastes subject to notification and consent are set out in the Amber List (Annex IV), while wastes subject only to information requirements are set out in the Green List (Annex III). Wastes for which export is prohibited are listed separately (Annex V).

3.1.4 Waste Management Act

In Ireland, the primary legislative platform for waste is provided by the Waste Management Act (WMA) 1996 and the Protection of the Environment Act 2003. WMA has been brought into effect by the making of a series of Regulations, covering a wide range of topics. For example, the format and content of waste management plans is governed by the Waste Management (Planning) Regulations 1997. The WMA has been further amended by enacting regulations that address new EU environmental initiatives and strengthen areas where problems have arisen.

The main objectives of the WMA 1996 are to:

- Deliver a more effective organisation of public authority functions in relation to waste management involving new or redefined roles for the Minister, the EPA and local authorities by defining the roles and responsibilities of each;
- Enable measures designed to improve performance in relation to the prevention and recovery of waste; and

⁸ Council Decision 93/998/EEC of 1 February 1993 on the conclusion, on behalf of the Community, of the Convention on the control of transboundary movements of hazardous wastes and their disposal.

- Provide a comprehensive regulatory framework for the application of higher environmental standards, in response to EU and national requirements.

3.1.5 European Framework Policy

Since the release of its Europe 2020 Strategy in 2010, the European Commission has published important waste policy framework documents to move Europe and its Member States onto a more stable, sustainable economic and environmental platform. The focus is for Europe to become more resource-efficient and to embrace the transition to a green circular economy. A summary of the principal policy publications is provided below.

7th Environmental Action Programme: this programme has been formally adopted by the European Parliament and Council and will be guiding the implementation of environment policy for Member States until 2020. The programme lists three thematic priorities, one of which is to turn the Union into a resource-efficient and competitive low-carbon economy. The focus is on turning waste into a resource with more prevention, reuse and recycling initiatives, and phasing out wasteful and damaging practices such as landfilling. By 2020 the European Union and Member States are to ensure that:

- Waste is safely managed as a resource to prevent harm to health and the environment;
- Absolute waste generation and waste generated per capita are in decline;
- Landfilling is limited to residual (i.e. non-recyclable and non-recoverable) waste; and
- Energy recovery is limited to non-recyclable materials.

Roadmap to a Resource Efficient Europe: the roadmap is the seventh and last of the Europe 2020 Strategy flagship initiatives which aim to shift towards a resource-efficient, low-carbon economy to achieve sustainable growth for Europe. It establishes resource efficiency as the guiding principle for EU policies in many sectors in a long-term framework. The aim is to increase certainty for investment and innovation, and to ensure that all relevant policies factor in resource efficiency in a balanced manner. The roadmap proposes ways to increase resource productivity and decouple economic growth from resource use and its environmental impact. It illustrates how policies interrelate and build on each other. The roadmap proposes a set of measures such as incentives to choose the most resource-efficient products, services and production methods, to turn waste into a resource, to phase out environmentally harmful subsidies, to shift away from the taxation of labour towards the taxation of environmental impacts, to give value to natural capital and ecosystem services, to stop biodiversity loss, to meet air quality standards, to progress towards no net land take by 2050, to achieve good environmental status for all EU marine waters, and to fish within maximum sustainable yields.

3.1.6 National Framework Policy

National waste management policy up to 2014 is outlined in a series of statements produced by the DECLG and separate publications which address waste prevention and hazardous waste. The intention of these statements was to improve how we manage our waste, which often, in the first instance, means moving away from landfill towards more environmentally sustainable options.

National policy statements have evolved since 1998, the year of their first publication, and each statement attempts to build on the objectives of the previous one to improve the waste management system. The statements published to date include:

- Waste Management: Changing our Ways (1998);
- Preventing and Recycling Waste: Delivering Change (2002);
- Taking Stock and Moving Forward (2004);
- National Strategy on Biodegradable Waste Management (2006); and
- A Resource Opportunity – Waste Management Policy in Ireland (2012).

A Resource Opportunity – In July 2012 the DECLG published Ireland's latest waste management policy, which sets out a number of important policy actions in the context of the waste management plans including:

- A revised five step waste hierarchy as part of national policy;
- The virtual "elimination" of landfilling municipal waste is set as a long-term goal with the introduction of landfill bans a possibility;
- The introduction of new regulations for household food waste was signalled and a four year phased roll-out is planned to improve participation and capture rates;
- Side by side collection of waste in the household market will remain with the collection permit system. The household collection market will be strengthened through the implementation of collection service standards and incentivised charging structures;
- Placing responsibility on householders to prove they manage their waste in an environmentally acceptable manner to help combat illegal fly-tipping, littering and backyard burning of waste;
- A greater level of enforcement will be required in the coming years at the household, commercial and industrial levels with better use of resources across the different authorities; and
- The principles of proximity and self-sufficiency are to be implemented to ensure that the State develops the necessary waste recovery infrastructure.

Sustainable Framework – This framework, published in June 2012 by the Government, sets out the range of environmental, economic and social measures required to move these agendas forward from vision to reality. Significant gaps remain across a range of economic, social and environmental public policy areas and the framework aims to address those gaps. Under the theme of sustainable consumption and production the framework recommends:

- That Ireland's waste policy continue the established approach of moving waste management away from landfill towards a range of alternative treatments;
- The effective implementation of resource efficiency initiatives across all sectors in Ireland led by government and State Agencies; and
- Implementing the national action plan and policy measures on green public procurement.

National Waste Prevention Programme – In 2014 the EPA published the next phase in the evolution of the national waste prevention programme. *Towards a Resource Efficient Ireland: A National Strategy to 2020* revitalises the framework aimed at breaking the link between economic growth and environmental impacts through resource efficiency and waste prevention. The strategy sets out a range of objectives to be implemented through programmes, partnerships, research and targeted

initiatives. The framework will prioritise activities in the following four thematic areas, all of which have relevance for the waste plans:

- Promoting efficient use of resources in business (water, material, energy);
- Minimising food waste and promoting efficient water use in homes and communities;
- Maximising REUSE and recovery of resources and preserving national capital; and
- Encouraging behavioural changes to ensure efficient use of resources.

National Hazardous Waste Plan – In 2014, the EPA published the third national hazardous waste management plan. It sets out the priorities to be pursued over the six year lifetime of the plan to improve the management of hazardous waste in Ireland. Priority actions include waste prevention; improving collection rates for certain categories of hazardous waste; steps required to improve Ireland's self-sufficiency in hazardous waste management; and continued identification and regulation of legacy issues (e.g. the assessment and remediation of historic unregulated waste disposal sites). The key to the success of the plan is its effective implementation, and the waste regions (and local authorities within these) will have a role to play to deliver these actions.

Policy

There are extensive European and national legislative and policy obligations on local authorities to manage waste, and the waste hierarchy is a valuable policy and decision making tool. Moving the management of waste up the hierarchy is preferable from a waste management and environmental perspective, and the hierarchy will be central to the implementation of the plan.

Policy:

- A1. Take measures to ensure the best overall environmental outcome by applying the waste hierarchy to the management of waste streams.

The polluter pays principle is a guiding principle at European and national levels and the local authorities recognise its importance. The waste producers and the waste holders are responsible for bearing the cost of waste management, and equitable implementation in support of the principle is required over the plan period. Ensuring this principle is complied with through regulatory and environment actions, addressing issues such as illegal waste activities, will positively affect the environment also.

Policy:

- A2. Implement the polluter pays principle across all waste services and regulatory activities in a manner appropriately reflecting the risk to the environment and human health.

3.2 WASTE TREATMENT AND MOVEMENT LEGISLATION AND POLICY

EU and national legislation is in place governing the treatment and disposal of waste. This details the conditions, environmental controls and standards to be put in place at these facilities. A brief summary of the principal European and national legislation relating to the treatment and movement of waste is provided below.

3.2.1 Directive on Industrial Emissions (2010/75/EU)

The 2010 Directive on Industrial Emissions (IED) seeks to minimise pollution from industrial sources, and it requires affected operators to obtain an integrated authorisation. Under IED, emission levels associated with Best Available Techniques (BAT) will generally become the legally binding limits in licences. Waste activities affected include some which were not previously covered under Integrated Pollution Prevention and Control (IPPC) licensing, e.g. composting, anaerobic digestion, metal shredding and pre-treatment to refuse derived fuel (RDF) or solid recovered fuel (SRF). These activities are being licensed according to a schedule of dates.

3.2.2 Implementing the EU Landfill Directive (1999/31/EC)

The objective of the Landfill Directive is to prevent or reduce as far as possible any negative effects on the environment or human health associated with the landfilling of waste. It specifies technical requirements for landfill design, operation and closure and sets deadlines for the diversion of biodegradable municipal waste (BMW) from landfill. The Landfill Directive limits the amount of BMW that can be landfilled in Member States. The limit is calculated as a percentage of the amount landfilled in 1995, and is set at 75% in 2010, 50% in 2013 and 35% in 2016. Ireland met its 2010 target, and preliminary data from the EPA indicates that Ireland is on track to meet its 2013 and 2016 targets (see **Figure 3-3**).

Article 5 of the Landfill Directive requires each Member State to prepare a National Strategy on Biodegradable Waste (NSBW) detailing measures aimed at the separate collection, recovery and recycling of biodegradable waste. The Irish NSBW was introduced in 2006 and identifies measures to progressively divert BMW from landfill in accordance with the agreed targets of the Landfill Directive. In order to help Ireland meet its obligations, the EPA developed a protocol⁹ in 2009 to provide guidance on the level of pre-treatment required prior to landfilling and how to determine the amount of BMW in municipal solid waste (MSW) that is sent to landfill.

3.2.3 End of Waste Regulations

End of Waste (EOW) criteria specify when certain waste ceases to be waste and obtains the status of a product (or a secondary raw material). According to Article 6(1) and (2) of the Waste Framework Directive 2008/98/EC, certain specified waste shall cease to be waste when it has undergone a recovery (including recycling) operation and complies with specific criteria to be developed in line with certain legal conditions. End of Waste criteria have been developed to determine when iron, steel, aluminium scrap metal¹⁰ and glass cullet¹¹ cease to be waste.

⁹ EPA Pre-Treatment Guidelines.

¹⁰ Council Regulation (EU) No. 333/2011 (Iron, steel, aluminium scrap metal).

In accordance with the EOW Regulations, a quality management system must be implemented and certified by an accredited independent conformity assessment body, or other environmental verifier, to demonstrate compliance with End of Waste criteria. In 2014, nine Irish companies authorised to accept scrap metal at 12 authorised waste facilities currently maintain an applicable quality management system. The Commission is proposing to address other waste streams in the future, including recovered paper, plastics and biodegradable waste/compost.

3.2.4 Collection and Movement of Wastes

Waste collectors are required by the Waste Management (Waste Collection Permit) Regulations, 2007 as amended, to have and comply with the conditions of a permit to collect waste. The Regulations set out the procedures for making a waste collection permit (WCP) application, the conditions which can be attached and the review and revoking of such permits. Offaly County Council was appointed as the National Waste Collection Permit Office (NWCPO) in 2012 and is responsible for administering waste collection permits in the Republic of Ireland.

Obligations for the movement of hazardous wastes are covered in **Section 3.3**. There are some exemptions for the movement of specific waste streams, including WEEE, in certain circumstances which are covered under the Waste Management (Collection Permit) Regulations 2007 as amended.

3.3 WASTE STREAM LEGISLATION AND POLICY

This section outlines the legislation in place in Ireland for the management of specific waste streams. However, it is noted that there is unauthorised movement of some household waste and certain waste streams, such as ELVs, into Northern Ireland and abroad. Most waste streams have binding performance targets in place; **Figure 3-3** charts national progress towards achieving these targets.

Household waste: In Ireland the management of the household waste stream and its fractions (residual wastes, organic wastes and dry recyclable wastes) is governed by several Regulations and policy directions. The provision of source-separated household waste collection has been a policy recommendation since 1998¹² and was supported by the objectives of the first regional waste plans and obligated under statutory instruments, such as the Packaging and Waste Packaging Regulations 2007. In support of the policy, local authorities issued collection permits requiring the provision of source-segregated recyclable waste collections from the household waste stream. Separate national Regulations¹³ require householders to segregate their food waste and make it available for separate collection. Alternatively the waste can be home composted or brought directly to an authorised treatment facility. The Regulations require the provision of separate food waste collections to almost all households in the State. The future targets are to service all agglomerations with a population of greater than 1,500 persons by July 2015, with all areas with more than 500 persons to have a service by July 2016. Finally, the WFD has set a target of 50% recycling by 2020 for principal fractions¹⁴ of the household stream, and Ireland is on track to meet this target.

Commercial waste: Similarly to household waste, the collection of commercial dry recyclable wastes is driven by national policy obligations and Regulations requiring the separate collection of recyclables for recovery. The Waste Management (Food Waste) Regulations (S.I. No. 508 of 2009)

¹¹ Council Regulation (EU) No. 1179/2012 (Glass cullet).

¹² Changing Our Ways (1998) Department of Environment, Community and Local Government.

¹³ The European Union (Household Food Wastes and Bio-Waste) Regulations 2013.

¹⁴ Household-derived paper, metal, plastic and glass.

require the segregation and recovery of food waste arising from commercial premises. The Regulations apply to “producers”, who are essentially the suppliers of food, and the classes of premises affected are provided in Schedule 1 of the Regulations. The National Waste Collection Permit Office is tasked with issuing permits to waste collectors for the collection of wastes including commercial wastes.

Packaging and waste packaging: The Packaging Waste Directive (94/62/EC and amended) and supporting Irish legislation deal with packaging placed on the Irish market and all types of packaging waste. The legislation requires Member States to introduce systems for the return and/or collection of used packaging. The European Union (Packaging) Regulations 2014 (S.I. No. 282 of 2014) replace the previous suite of regulations introduced in 1997. The Packaging Directive set a target of a minimum of 60% packaging waste recovery to be achieved by December 2011, and Ireland has exceeded this target since 2006. The recovery rate in 2012 was 87% (see **Figure 3-3**).

Construction and demolition waste: Ireland does not have a specific Regulation addressing Construction and Demolition (C&D) waste. This stream is managed through policy and other measures. For example in 2007, planning guidelines¹⁵ issued under the Planning and Development Acts¹⁶ required planning authorities to consider the DECLG Best Practice Guidelines to ensure the proper management of C&D waste. The national policy document, *Changing Our Ways* (1998), set a target of 85% recycling of C&D waste by 2013. More recently the 2008 EU WFD set a target of 70% by weight for C&D waste, excluding natural soils and stones and hazardous C&D wastes. In 2012 the EPA reported that Ireland has exceeded this target by a considerable margin with a recovery rate of 97%.

Waste electrical and electronic equipment (WEEE): The WEEE Directive requires the establishment of a producer-funded take-back scheme for WEEE to promote reuse, recycling and recovery. The 2014 Irish Regulations give producers responsibility for financing the environmentally sound management of WEEE and assign collection and recycling/recovery targets. Ireland has developed robust producer responsibility schemes for the collection of WEEE and has achieved all mandatory targets to date.

End-of-life vehicles (ELVs): Directive 2000/53/EC on ELVs and national legislation¹⁷ aim to minimise the impact of ELVs on the environment at the design and waste phase. These Regulations facilitate the achievement of a rate of reuse and recovery of 95%, and a rate of 85% of reuse and recycling from January 2015. Owners of ELVs must deposit them at Authorised Treatment Facilities (ATFs) that may not charge for accepting an ELV. Local authorities enforce the parts of the ELV Regulations relating to ATFs and also maintain a register of producers. Ireland is making progress towards the mandatory target, but its achievement is currently at risk.

Tyres and waste tyres: The Waste Management (Tyres and Waste Tyres) Regulations 2007 provide a regulatory framework for tracking tyre quantities and movements from the time they are discarded until they are reused, recycled or recovered. The Regulations require those supplying and collecting tyres to report the quantities involved, and to register with their relevant local authority, pay fees and fulfil reporting requirements. Those who are members of a Producer Responsibility

¹⁵ Guidelines 13 – Development Guidelines for Local Authorities, DECLG.

¹⁶ Section 28 of the Planning and Development Acts.

¹⁷ European Union (End of Life Vehicles) Regulations, 2014 (S.I. No. 281 of 2014).

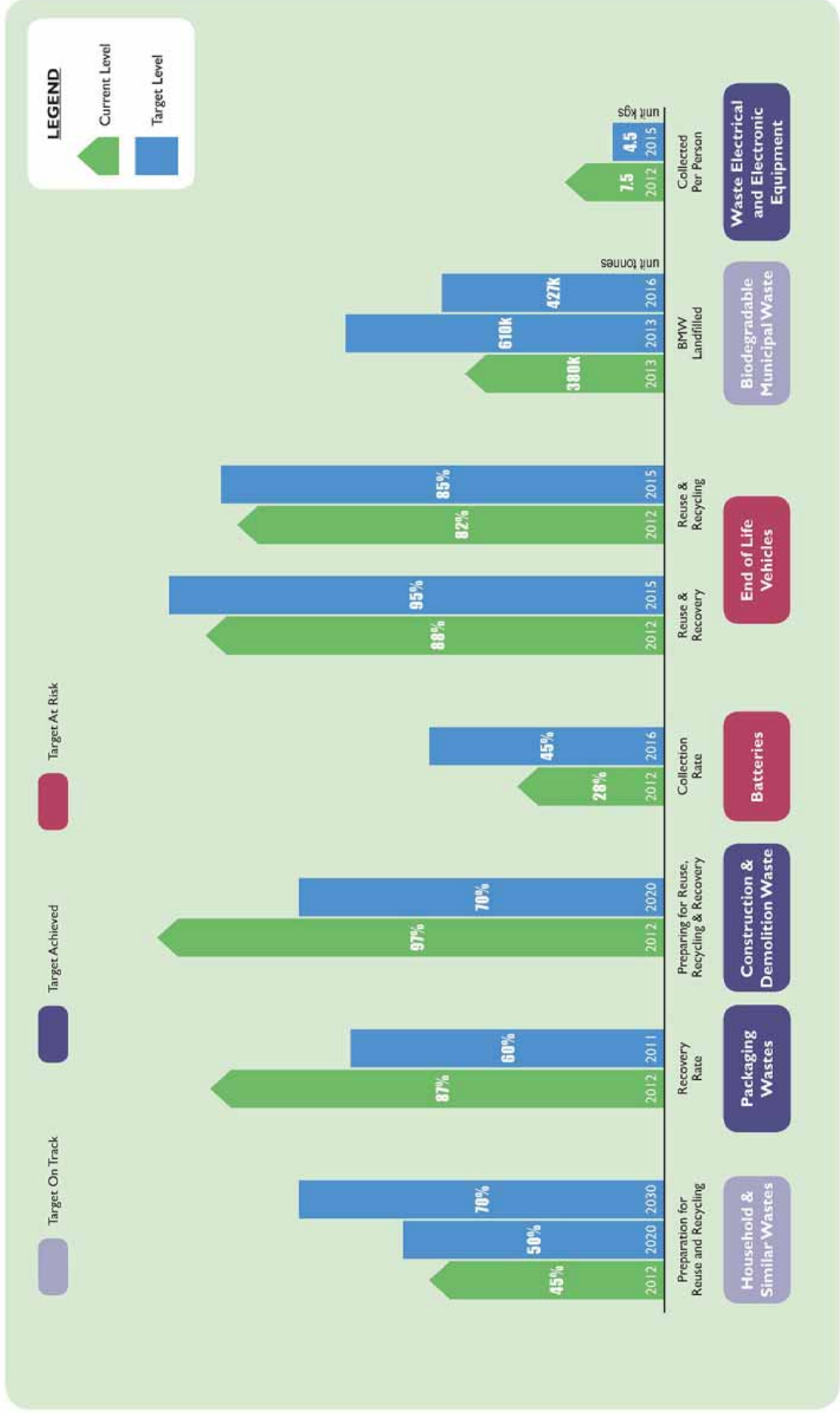


Figure 3-3 Ireland's Progress towards European and National Mandatory Targets

Operator (PRO) are exempt from the requirements to register with local authorities. Unlike other waste producer compliance schemes, the tyre compliance schemes do not fund/subsidise the collection and treatment of waste. The existing tyre compliance scheme is not required to meet specified recycling/recovery targets as these are tracking schemes rather than full Producer Responsibility Initiatives (PRIs).

Batteries and accumulators: EU Directives 2006/66/EC and 2013/56/EU on waste batteries and the national legislation¹⁸ set out the system for managing waste batteries. The national regulation provides for the free take-back of waste batteries and facilitates their collection, treatment and recycling. Mandatory minimum collection rates are required for portable batteries – 25% by 2012 and 45% by 2016. Ireland's progress towards the 2016 target has been slow and the achievement of this target is currently at risk. The 2006 Directive prohibits the landfilling or incineration of waste industrial and automotive batteries and outlines the provisions for labelling batteries and their removability from equipment. The 2013 Directive amends the previous Directive, and focuses on the hazardous content of waste batteries, prohibiting the sale of most batteries and accumulators that contain certain levels of mercury and cadmium.

Hazardous waste: Hazardous waste is generated by all sectors of Irish society, from large industry to small businesses, households, schools and farms. It is for the most part managed by a professional hazardous waste industry and is treated appropriately and in accordance with legal requirements. The Waste Management (Hazardous Waste) Regulations 1998 (S.I. No. 163 of 1998), as amended, update and replace a number of previous Regulations. These Regulations implement the provisions of several EU Directives relating to the supply of batteries and accumulators, the management and disposal of polychlorinated biphenyls (PCBs), PCB-containing wastes, asbestos wastes, waste oils and hazardous wastes.

Farm plastics: The Waste Management (Farm Plastic) Regulations 2001 promote the collection and recovery of farm plastic waste. They oblige manufacturers and importers of farm plastics to arrange for environmentally acceptable ways of collecting and disposing of used plastic film, including deposit and refund, or other schemes.

Animal by-products: The Animal By-Product (ABP) Regulations¹⁹ address aspects relating to the collection, treatment, storage and use of ABPs. Household, commercial and industrial waste streams consisting wholly or in part of ABPs, including, for example, meat, milk, bones or manures, fall within its remit as do their associated treatment processes, including anaerobic digestion, composting, mechanical-biological treatment (MBT), "fines" stabilisation and landfill. The legislation specifies acceptable processes and standards of recovery/disposal for each category.

Sewage sludge: The Waste Management (Use of Sewage Sludge in Agriculture) Regulations 1998 as amended provide limits for certain metals permitted in soil and sludge, and limit their introduction into soil. The licensing or certification of waste water discharges from local authority sewer networks began in 2007, giving effect to a number of EU Directives by restricting the discharge of dangerous substances. All discharges to the aquatic environment from public sewerage systems require authorisation from the EPA. Stringent conditions on the operation of such discharges will limit and control the effects on receiving water bodies. However, the Regulations do not include waste water sludge disposal. Some local authorities have produced separate sludge plans for the management of sewage and industrial sludges, but in most cases these are out of date. Irish Water is proposing to

¹⁸ European Union (Batteries and Accumulators) Regulations 2014 (S.I. No. 283 of 2008).

¹⁹ 2009 Regulation (EC No. 1069/2009).

introduce a national wastewater sludge management plan in 2015 and a national water treatment sludge management plan at a later date.

Mining and extractive industries wastes: The EU Directive (2006/21/EC) on the management of waste from extractive industries and national legislation²⁰ require the establishment of a range of provisions for extractive waste facilities. The Regulation focuses on improving quality management for the most hazardous types of extractive waste facility. Many of these facilities will be already licensed by the EPA, but local authorities are required to identify any additional sites. The local authority has assigned responsibilities for planning, inspections and information gathering.

Healthcare waste: This is the solid or liquid waste arising from healthcare activities. There is no specific statutory instrument for healthcare waste, and the management of this waste stream and its fractions falls under several Regulations including the packaging and packaging waste regulations, commercial food waste regulations and hazardous waste regulations.

Policy

The local authorities recognise the extent of inert, non-hazardous and hazardous waste streams being generated in the region and nationally. The management of these streams places specific obligations on the authorities, and the policies and actions of the plan are designed to ensure that the authorities are contributing to proper management. The importance of tracking the progress of managing these streams is critical to identify areas where the existing systems are not achieving performance targets, as well as reporting on the streams which are being managed successfully.

Policy:

- A3. Contribute to the improvement of management performance across all waste streams through the implementation of policy actions and monitor progress towards national targets.

3.4 OTHER WASTE LEGISLATION

Other important Irish legislative instruments are summarised in the following sections.

3.4.1 Waste Management Planning Regulations

The Waste Management (Planning) Regulations 1997 specify the content to be included in a waste management plan made under section 22 of the Waste Management Act 1996:

1. Preface to the waste management plan;
2. Present position regarding waste management;

²⁰ Waste Management (Management of Waste from Extractive Industries) Regulations 2009 (S.I. No. 566 of 2009).

3. Anticipated developments over the period of the plan;
4. Waste management policy; and
5. Implementation of waste management policy over the relevant period.

The Regulations also define the statutory authorities who are to be given a copy of the proposed or final plan.

3.4.2 Plastic Bag Levy

The plastic bag levy was introduced on 4 March 2002 under the Plastic Bag (Amendment) (No. 2) Regulations (S.I. 167 of 2007). Its primary purpose is to reduce the consumption of disposable plastic bags by influencing consumer behaviour. The current levy of 22 cent was introduced on 1 July 2007. Plastic shopping bags designed for reuse are exempt from the levy provided the retailer charges at least 70 cent for the bag.

3.4.3 Landfill Levy

A levy on each tonne of waste sent to landfill was introduced on 1 June 2002 under the Waste Management (Landfill Levy) Regulations 2002. The levy is designed to encourage diversion of waste from landfill and generate revenues that can be used to support waste minimisation and recycling initiatives. It was set at €15 per tonne in 2002 and has increased over time to the current level of €75 per tonne: see **Table 13-1** for details of the increases to the landfill levy since it was introduced.

3.5 ENERGY LEGISLATION

Energy policies encourage the use of waste resources as fuel. The *Energy White Paper* (2007) recognises that renewable energy has a significant role to play in meeting Ireland's objectives of security of supply, environmental sustainability and economic competitiveness. Waste-derived materials are an important source of renewable energy.

The *Strategy for Renewable Energy for Ireland* (2012–2020) set out a goal to develop a sustainable bioenergy sector which will support renewable heat and power generation, with a focus on the use of waste as an energy resource. The Electricity Regulation Act 1999 also encourages the use of electricity generated from renewable energy sources.

The *National Development Plan (NDP) 2007–2013* had a focus on the deployment of biomass and biofuels through a range of supports, including focus on integrating sustainable energy practices and structures into public policies and the development of infrastructures. A ministerial task force on bioenergy produced a *Bioenergy Action Plan for Ireland* (2007) which set bioenergy deployment targets and identified priority areas for development and support. This has been followed by the Draft Bioenergy Plan, which was published in October 2014 by the DCENR.

The Renewable Energy Feed in Tariff (REFIT) is the primary means through which the generation of electricity from renewable sources is supported in Ireland, and some waste technologies qualify for State aid under this programme.

3.6 LEGISLATION TO PROTECT BIODIVERSITY AND WATER

A waste management plan requires a Strategic Environmental Assessment (SEA) to be performed, and a brief summary of the principal wildlife legislation relevant to the preparation of the SEA is provided below.

The EU introduced the Birds Directive in 1979 and the Habitats Directive in 1992. The aim of both is to maintain and restore the favourable conservation status of natural habitats and species. Each Member State must designate its most important natural areas as Special Areas of Conservation (SACs). The Directive specifies the scientific criteria on the basis of which SAC sites must be selected and very strictly curtails the grounds that can be used as justification for damaging a site. The network of sites is referred to as Natura 2000 and includes SACs for protected habitats and species and SPAs (Special Protection Areas) for protected bird habitats.

Article 6 of the Habitats Directive provides a strict assessment procedure for any plan or project not directly connected with or necessary to the management of a designated European site but which has the potential to have implications for the site in view of the site's conservation objectives. The regional waste management plans, therefore, fall under the remit of Article 6.

The Wildlife Acts 1976–2012 are Ireland's primary biodiversity legislation. The 2000 Act broadened the scope of the 1976 Act, gave statutory protection to Natural Heritage Areas (NHAs) and enhanced conservation of wildlife species and their habitats.

Section 21 of the Wildlife Acts 1976–2012 provides for the protection of specific species of flora. The current list of protected plant species is set out in the Flora (Protection) Order 1999, and makes it illegal to damage the listed species, or their habitats, in any way. This protection extends to all sites where the flora may be found and is not limited to those designated for conservation.

The European Communities (Birds and Natural Habitats) Regulations 2011 and 2013 apply to flora, fauna and habitats, with a particular emphasis on strengthening the protection of birds. The Regulations also complement relevant provisions of the Planning and Development Act 2010. Local authorities and An Bord Pleanála will now have legal responsibilities and powers under the Planning and Development Acts to ensure that the requirements of the Birds and Habitats Directives are adhered to when adopting development plans and granting of development consents. All other statutory authorities must adhere to the provisions of the new Birds and Habitats Regulations in their planning, consent and operational functions.

The Water Framework Directive (2000/60/EC) aims at improving the aquatic environment and as such it applies to rivers, lakes, groundwater, estuaries and coastal waters. Member states are required to achieve good status in all waters and must ensure that status does not deteriorate. This directive requires that water quality management be centered on river basins. The RWMP will contribute to the fulfilment of these environmental protection objectives through policy actions such as the plan for prioritising investigation and remediation of landfills. Preparation of the second cycle of River Basin Management Plans and Programme of Measures (PoM) has commenced and outputs will be available within the timeframe of this RWMP. These plans and associated PoM will be integrated into the RWMP as relevant.

4 EMERGING POLICY ISSUES

The following sections provide a summary of emerging policy issues which will impact on the management of household and municipal waste and the regulatory role of local authorities over the duration of the plan.

4.1 EUROPEAN CIRCULAR ECONOMY POLICY

The circular economy policy agenda is an essential part of the EU's vision for a healthier and more prosperous environment for Member States and its citizens. In the 7th Environment Action Programme, the European Commission states that:

“our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is protected and restored in ways that enhance society's resilience”.

In the global economy the demand and competition for finite and sometimes scarce resources will continue to increase, and pressure on resources is causing greater environmental degradation and fragility. Making better use of those resources, reducing the leakage of materials from our economies, will deliver benefits economically and environmentally. The move to a circular economy, replacing outdated industrial take–make–consume and dispose models, is essential to deliver the resource efficiency ambition of the Europe 2020 Strategy. The circular economy is central to the strategy of the regional waste plans and is described in full in **Chapter 5**.

Stimulating the circular economy requires extensive policy support at European, national, regional and local levels. On 2 July 2014, the European Commission adopted the Communication “Towards a circular economy: A zero waste programme for Europe” and annex to establish a common and coherent EU framework to promote the circular economy. In November 2014, following the appointment of a new President and Commissioners to the European Commission, a significant number of legislative proposals were reviewed including the circular economy package.

The European Commission officially withdrew the ambitious waste and recycling policy proposals as part of the circular economy package in February 2015. The Commission has commenced work on a new proposal to replace the package.

It is expected that the new package will be broader in scope, covering product design, reuse and the creation of markets for secondary raw materials, rather than being overly focused on waste management. A large number of Member States have signalled support for better product policy to help reduce waste. The role of targets will be revisited for the new package on the circular economy, with targets previously proposed, such as the 30% resource efficiency target, unlikely to be retained.

The replacement package may contain more non-legislative policies to help cut the administrative burden of implementing EU waste goals. Issues to be addressed in the new policy through non-legislative measures will include investment and business opportunities. The package will also take into account the different situations in Member States and better reflect national differences.

The Commission has stated that it will publish a roadmap setting out its first ideas for the new package for public consultation from May to July 2015. Formal proposals, including a revised waste proposal, are due at the end of this year.

4.2 ORGANISATION OF THE HOUSEHOLD WASTE COLLECTION MARKET

The household waste collection market in Ireland was unregulated until the State brought into force primary waste legislation in 1996. At this time most household waste collection services in Ireland were provided by local authorities. In some rural areas local private collectors were serving householders, although this activity was limited.

Following the introduction of the Waste Management Act in 1996, secondary legislation was enacted to implement the requirements of the Act and to provide legal systems for operations and activities in the waste market.

The regulatory framework introduced for household collections did not exclude private operators from the market, once the appropriate authorisation (i.e. waste collection permit) was obtained. The evolution of the market has seen increased market penetration by private operators. This led to increased competition between public and private operators for the provision of services. Local authorities have increasingly ceded the household collection market to private collectors.

The reform of the household waste collection market has been under consideration for some time. In 2011 the present Government signalled its intention to introduce competitive tendering for local household waste collection services and issued a discussion document, *Altering the Structure of Household Waste Collection Markets* (2011), for public consultation. The consultation identified a number of areas of poor or problematic performance in the current regulatory system. Despite the need for change, the document also noted that a possible alteration in market structure has the potential to lead to economic disruption and other risks.

DECLG published a *Regulatory Impact Analysis on Household Waste Collection* in 2012. This analysis considered the introduction of competitive tendering for household waste collection. It recommended that Government preserve the current household waste collection market structure and that it strengthen the regulatory regime to address areas of weakness.

The policy document *A Resource Opportunity-Waste Management Policy in Ireland* (2012) followed and proposed a revision of the existing regulatory regime to ensure that:

- waste collected is managed in accordance with the waste hierarchy;
- mandated service levels are delivered;
- pricing structures incentivise household waste reduction and source segregation;
- Customer charters are put in place by all waste collection providers; and
- The existing collection permit system is strengthened to improve governance controls, permit fee structures, and address emissions and health and safety risks.

In this policy document the Government confirmed that competition oversight of the market was required so as to ensure a level playing field for both existing and potential new entrants. The Competition Authority has been tasked with monitoring the household waste collection market, with a formal review of the market to be completed by the Authority in 2016.

Household waste regulations are being prepared to strengthen the regulatory structure for the management of household waste, and are due for publication in 2015. A government circular²¹ issued in 2015 outlines the scope of the regulations, which are intended to introduce a number of new measures for household waste collectors:

- Pay-By-Weight: They will have to ensure that pay-by-weight systems are in place by July 2015 and charge households on a pay-by-weight basis from July 2016;
- Customer Charter: They will be required to have customer charters in place by July 2015;
- Minimum Service Level: They will be required to collect all three household waste streams in line with the EU(Household Food Waste and Bio-Waste) Regulations 2013;
- Verify Customer Details: They will have an obligation to provide authorised officer details which confirm that a householder is using their service; and
- Enforcement Provisions: Contravention of any of the new measures listed above will trigger an automatic review of their permit and the regulations will also introduce fixed penalty notices for specified offences and a “three-strike” approach to specified offences whereby an automatic review will be triggered.

Similar obligations will be in place for pay-to-use compactors and civic amenity sites accepting residual waste. From July 2016 onwards it is intended that there will be an obligation on householders to demonstrate that they are managing their waste, with the introduction of fixed penalty notices for households who cannot demonstrate this.

It is anticipated that the new regulations will deliver both an improved environmental performance and a quality service for consumers. The new regulations are also expected to enhance the regulatory and enforcement role of local authorities to address issues such as poor service provision and uncollected waste.

4.3 RESIDUAL AND BIOWASTE EXPORTS

The export of residual waste has become more prevalent in the Irish residual waste market in recent times. Data shows that residual waste exports, typically of RDF, commenced as far back as 2004. Exporting of segregated biowaste to Northern Ireland is a trend that has developed more recently. The preferential pricing of energy generated from AD plants in Northern Ireland is helping to grow the industry and keep treatment gate fee costs competitive with facilities south of the border.

The amount of residual municipal waste being exported has increased each year since 2011. In 2013 over 300,000 tonnes of residual municipal waste was exported, which equates to approximately 20% of the available residual waste market in Ireland. Provisional data for 2014 indicates that the recent trend of increasing residual waste exports is set to continue, with a further rise in the tonnage recorded.

The quality of the residual waste material exported varies and is determined by the extent of pre-treatment the waste has undergone. Mechanically processing residual waste for export produces either RDF or SRF. The latter is a higher quality material which must comply with the international standard, CEN/TC 343. SRF typically has a higher calorific value and is the preferred alternative fuel feedstock for cement kilns. RDF is a lower quality material, the production of which requires less processing, and therefore it attracts a lower value. A third output in the form of baled, wrapped

²¹ Circular WP01/15.

municipal waste is also being generated for export. This material may be exported with minimal, if any, treatment. The EPA has introduced guidance²² outlining to operators who are preparing residual waste for export the level of processing required to allow a reclassification of material from an EWC 20 03 waste to a 19 12 type waste code.

The growth in the residual waste export market is due to a number of factors, the primary one being the landfill levy, which rose from €30 per tonne in 2010 to €75 per tonne in 2013. The quantity of residual waste sent to landfill dropped by almost a third from almost 1.5 Mt in 2010 to just over 1 Mt in 2012. Competitive, low-cost gate fees exist at incineration and waste-to-energy facilities across Europe and these have contributed to the movement of waste away from Irish landfills. The number of active disposal facilities in Ireland was reduced to six in 2015 from 28 in 2010. However, the sustainability of current market dynamics and the place of residual waste exports in the national waste strategy need to be carefully monitored.

The latest residual waste export data shows that the key destinations are facilities in Central and Northern Europe, with the Netherlands, Germany, Sweden and Denmark to the fore. **Figure 4-2** outlines residual waste exports and destination market²³.

In the shortterm, capacity will remain available in the Central and Northern European facilities and residual waste will continue to be imported to make up the shortfall. There is uncertainty as to the length of time capacity will remain at current levels. A report²⁴ from the Netherlands predicts that some of the Dutch Waste to Energy (WtE) plants, which are currently importing waste, face closure from 2016 onwards. Less efficient or older plants in Europe which are coming to the end of their original operating life will require substantial reinvestment if they are to continue to meet operating standards. In Germany for example, 36% of WtE facilities are over 20 years old²⁵ and it is reasonable to assume that not all of these will be able to continue to compete in the current environment.

There have been immediate short-term gains from the export of residual waste. The export of such waste is helping Ireland achieve its mandatory landfill diversion targets, and the availability of low cost gate fees from plants in Europe is also helping to keep waste disposal costs charged to householders and businesses down. Waste operators in Ireland have responded to the availability of the export market by configuring their facility operations to produce residual waste which can be recovered abroad.

The return to economic recovery and growth is expected to lead to increases in the generation of waste. Notwithstanding the continued efforts to improve rates of recycling, the quantity of residual waste requiring treatment is anticipated to grow across Member States as economies begin to emerge from the financial crisis. This may impact on the levels of over-capacity, as may closure of older, less efficient plants which are currently active in the market. Gate fee prices are likely to increase with demand for capacity. The development of such a scenario poses a potential significant risk to Irish exports in terms of securing long-term and cost-effective outlets for residual waste.

A growing dependence on the export market may lead to an over-reliance on overseas markets to manage Ireland's waste. This will have consequences for national policy ambitions to become self-sufficient in treating residual wastes. A continuous move towards waste exports may influence

²² EWC Classification of Mixed Municipal Waste Exiting Waste Management Facilities, EPA (October 2012).

²³ Data source: National TFS Office, 2013.

²⁴ Recycling benefits from combustible waste imports, Dutch Waste Management Association, November 2012.

²⁵ UK Waste Export: Opportunity or Threat? 2011 Briefing Report, June 2011.

direct infrastructural investment into mechanical pre-treatment facilities designed to produce baled residual waste for export. Such a move is not without risks as exports are vulnerable to market shocks, price increases and potential enhanced regulatory controls.

The export of waste also results in a direct loss of revenue to the Irish economy and impact on our ability to reach self-sufficiency. This loss is compounded by a corresponding reduction in the available waste resource used to generate energy in the form of combined heat and power (CHP) at many of these overseas facilities.

The energy generated from Irish waste not only is providing a revenue, which is a further loss to the Irish economy, for these plants but, more importantly perhaps, provides electricity and heat to businesses and homes in EU Member States (see Figure 4-1).

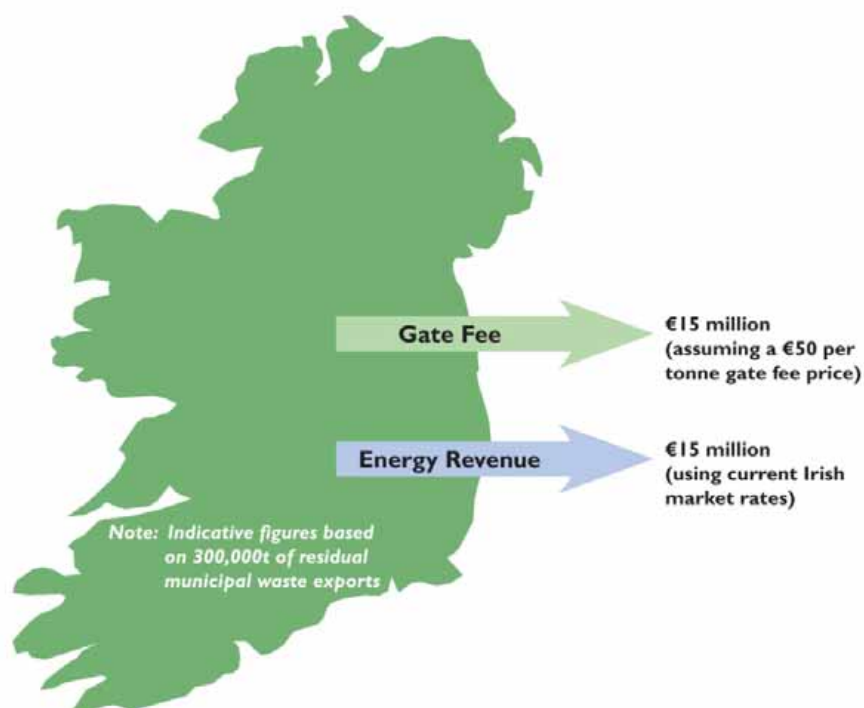


Figure 4-1 Indicative Financial Losses from Exporting Residual Wastes

The most recent Green Paper on Energy Policy in Ireland does not consider the potential of the waste sector to contribute to Ireland's energy future. The long-term alternative to the export of residual wastes is for Ireland to become self-sufficient in terms of managing and treating its residual waste in indigenous thermal recovery facilities.

Policy

The local authorities of the region support self-sufficiency and the development of indigenous infrastructure for the thermal recovery of residual municipal wastes in response to legislative and policy requirements. The preference is to support the development of competitive, environmentally and energy efficient thermal recovery facilities in Ireland, including the replacement of fossil fuels by co-combustion in industrial furnaces or cement kilns, and ultimately to minimise the exporting of residual municipal waste resources over the plan period.

While there is the potential for local impacts on the environment from the development of indigenous infrastructure, there are overall positive effects resulting from the reduction in national and international transport of waste streams, and associated emissions, in working towards self-sufficiency.

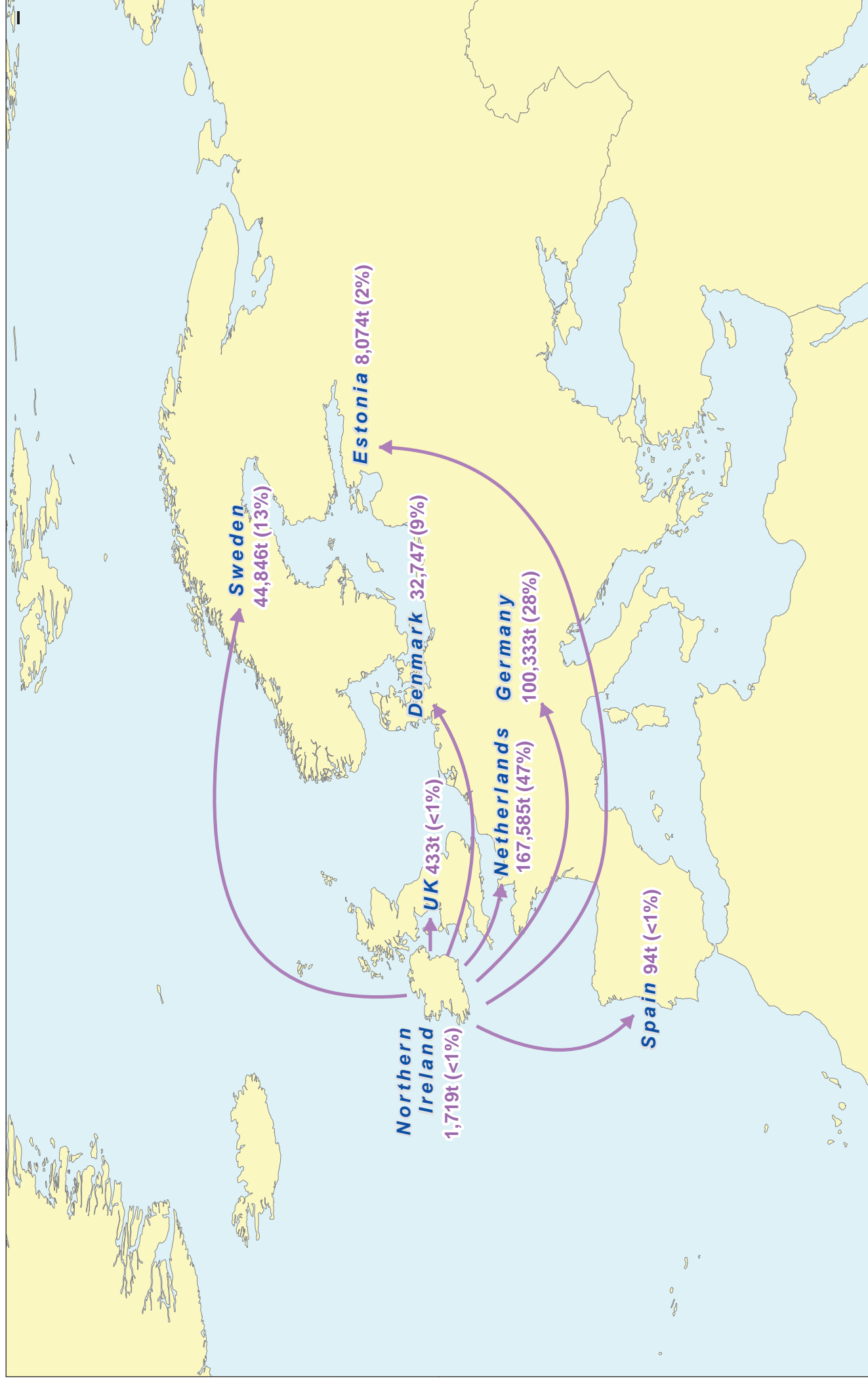


Figure 4-2 Residual Municipal Waste Exports and Destination Markets (2013)

Policy:

- A4. Aim to improve regional and national self-sufficiency of waste management infrastructure for the reprocessing and recovery of particular waste streams, such as mixed municipal waste, in accordance with the proximity principle. The future application of any national economic or policy instrument to achieve this policy shall be supported.

4.4 GREEN PROCUREMENT

Green procurement is a voluntary instrument generally associated with public policy, although it is equally applicable to the private sector. Green procurements help organisations to comply with legislation and contribute to environmental targets (e.g. CO₂ reduction, resource use and waste, water and energy), protect reputation, encourage new competitors, and increase market resilience by reducing exposure to commodity prices. The concept is becoming increasingly familiar and more commonly included in many organisations' Corporate Social Responsibility (CSR) policies.

Green Public Procurement (GPP) is defined in the European Commission's Communication *"Public procurement for a better environment"* as *"a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured"* (European Commission, 2008). At the European level, GPP is a voluntary policy. However, there are a number of areas where EU²⁶ or national²⁷ legislation creates specific environmental obligations which must be taken into account in procurement.

The importance of GPP in Ireland as a mechanism for government to deploy its purchasing power more strategically in pursuit of wider policy goals has been outlined in a number of key policy documents. The *National Climate Change Strategy 2007–2012* (DECLG, 2007) recognises the potential of GPP to *"move the market"* towards the competitive provision of more sustainable products and services. This is supported by Ireland's *Second National Energy Efficiency Action Plan* (DCENR, 2013), which recognises the opportunities that GPP represents for efficiency gains in the public sector.

The Government's framework document – *Building Ireland's Smart Economy* (2009) notes the potential of GPP practices to contribute to improving the capacity of Irish companies to supply high-quality, competitively priced goods and services that meet high environmental and carbon emission standards. *Developing the Green Economy in Ireland* (DJEI, 2009) also emphasises the importance of GPP and its implementation in a manner that supports innovative companies. As part of the Irish Government's commitment to achieving the EU GPP target, the DECLG and Department of Public Expenditure and Reform (DPER) jointly launched Ireland's first *Green Public Procurement Action Plan, Green Tenders* in January 2012.

²⁶ Waste Electronic and Electrical Equipment (WEEE) Directive 2012/19/EU (as implemented by S.I. No. 149 of 2014) sets requirements on producers to take back used equipment as well as registering with a designated authority and complying with hazardous substance controls.

²⁷ Waste Management (Food Waste) Regulations S.I. No. 508 of 2009 require all major producers of food waste to place it into a dedicated bin and ensure that it is not mixed with other waste.

This action plan sets out a range of actions where green procurement can be strengthened within eight priority areas; Construction, Energy, Transport, Food and Catering Services, Cleaning Products and Services, Paper, Uniforms and Textiles, and ICT²⁸. The policy document defines the legal context and provides an overview of the mandatory environmental criteria which already apply to public bodies.

Green Tenders adopts a target for 50% of procurement in the eight priority sectors (both by number of contracts and by value) to include at least core GPP criteria. It also defines the economic and value-for-money context in which GPP will take place. A GPP Action Plan Implementation Group, comprising relevant Government Departments and Agencies, has been established and has been tasked with:

- Reviewing implementation of GPP on an annual basis;
- Drawing up terms of reference for further ongoing research; and
- Reporting on the level of GPP training for public procurers.

From a waste management perspective, the benefits from the implementation of GPP include the more efficient use of raw materials leading to a reduction in pollution and waste. Recently the EPA published an implementation guide²⁹ on green procurement aimed at the public sector which will help to establish the practice in public bodies.

Policy

The local authorities recognise the important contribution that GPP actions can make to improving resource efficiency and delivering higher level of materials reuse and recycling in public contracts. Over the plan period the local authorities are committed to implementing activities which realise a greening of contracts related to the waste plan. This policy will improve the process whereby public and semi-public authorities in procuring goods, services, works and utilities choose solutions that reduce the impact on the environment throughout their life-cycle. GPP recognises the purchasing power of the public sector and can bring about efficiencies in resource use, cost saving and environmental benefits.

Policy:

- C4. Contribute to the greening of public procurement in local authorities through the inclusion of resource efficient criteria in all tendering processes related to waste plan activities.

²⁸ These groups have been chosen on the basis of the following criteria: quantum of public expenditure; scope for environmental improvement; potential impact on suppliers; potential for setting an example to private or corporate consumers; political sensitivity; existence of relevant and easy-to-use criteria; market availability and economic efficiency.

²⁹ Green Procurement, Guidance for the Public Sector, EPA, September 2014.

5 STRATEGIC APPROACH

This chapter sets out the overarching waste strategy for the SR, which will be implemented over the lifetime of the plan.

5.1 BACKGROUND

This is the third round of regional waste plans to be prepared in Ireland and provides an opportunity to review the previous approach and propose a course of action to build on progress made to date.

The footprint of the new SR includes all or parts of five previous regional waste plans. The strategies contained in these plans typically covered a 15 year period and different scenarios for the future management of waste were examined in each region. Some of the plans included waste plan modelling, which took a holistic approach to assessing scenarios, considering waste management, and environmental and financial factors. To paraphrase, the preferred approach for each region aimed to maximise recycling and minimise disposal in favour of thermal recovery of residual wastes. The phrase "*best practicable environmental option*" was used to describe the preferred solution and accompanying performance targets were set. The fundamental objectives of these strategies continue to have relevance for Ireland, while it is recognised that the waste market has evolved since their design. The management systems in place for waste in Ireland are well established and any future strategy must seek to build on the positive progress made by the sector.

The evaluation of the waste plans was completed in 2012 and provided an opportunity for local authorities to consider the progress made by each region towards their strategic targets. A clear finding of the evaluation was the inability of local authorities to monitor their actual progress against the targets in their region. Characteristics of the Irish waste market such as (1) the open movement of waste across regional boundaries, (2) the potential for waste streams to be handled by a number of operators and (3) the export of waste make it almost impossible for authorities to accurately track and record the management outcome for waste generated in their regions. Future strategic targets need to be relevant and measurable over the lifetime of the plan. The evaluation reports also recommended that targets focus on broader waste streams such as municipal waste rather than household waste. This reflects the realities of the market and the mixing of similar waste streams that takes place at the collection and processing stages, which makes it increasingly difficult to measure individual waste streams or fractions.

The completion of the evaluations coincided with the publication of the government's waste management policy statement, A Resource Opportunity. A guiding principle of the statement is that when waste is generated, maximum value must be extracted from it by ensuring that it is reused, recycled or recovered, including by the appropriate treatment of mixed municipal waste or residual waste.

5.2 OUR VISION

The strategic vision of the regional waste plan is to rethink our approach to managing waste, by viewing our waste streams as valuable material resources, leading to a healthier environment and sustainable commercial opportunities for our economy.

This approach is focused on recognising the important role the waste and resource management sector has to play in helping Ireland's households, businesses and industry in the transition towards a more resource efficient, circular economy.

The strategic approach of the Plan aims to place a stronger emphasis on waste prevention and material reuse activities. It will also focus on enhancing the collection of quality materials from discarded waste to build on the positive progress made in recycling. In line with the national sustainable policy emphasis³⁰ to reduce our reliance on fossil fuel sources, the waste industry is recognised as contributing to Ireland's move to renewable energy solutions. The strategic approach will further strive to improve the recovery and generation of energy from waste treatment infrastructure by maximising the resource value of the materials and energy embodied in residual wastes. Finally, the plan will seek to further reduce the role of landfilling in favour of higher value recovery options.

The regions will work together and with other stakeholders to achieve greater self-sufficiency and take greater responsibility for waste generated in Ireland. The future management of waste across all regions must be managed in a manner which seeks to protect the environment and health of citizens against potential harmful impacts.

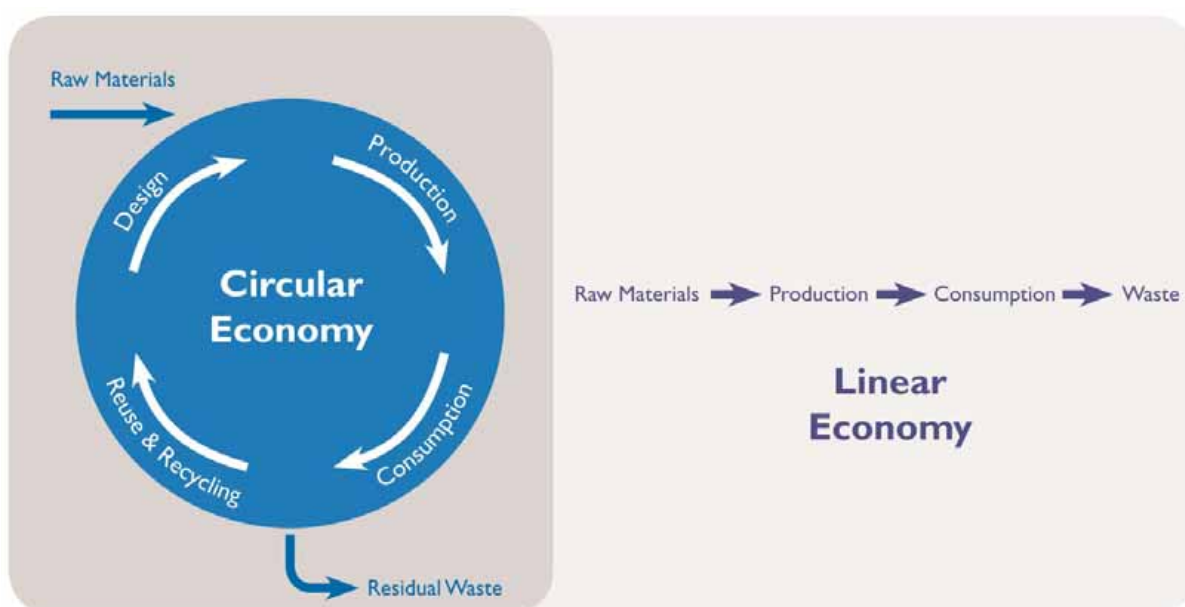


Figure 5-1 Circular Economy and Linear Economy Models

The circular economy model is not a new concept but rather a rethinking of similar concepts such as cradle to grave design and life cycle analysis. The circular economy model fundamentally considers waste as a resource which can be recirculated into systems that focus on maintaining, repairing, reusing, refurbishing and recycling materials and products. Being resource efficient and getting more from fewer resources is central to this model: see **Figure 5-1**. The existing make–take–dispose linear models, where products having reached their end of life are discarded as waste, are no longer viable. For the current linear approach to continue and thrive, resources would need to be plentiful and constantly available at low prices to meet demand. The economic reality is very different.

³⁰ Our Sustainable Future, A Framework for Sustainable Development, 2012.

Growing populations, increasing wealth and unsustainable levels of consumption have heightened the demand for resources, driving prices up and leading to significant pressure on resource availability. In response the European Commission is promoting and encouraging Member States to shift to a new circular economic model and is due to formally establish this policy theme across the EU with a new legislative proposal due to be released in 2015. The circular economy policy theme is discussed in **Chapter 4**.

Despite the economic downturn, Ireland is one of the highest consumers of materials per capita in the EU. A recent report³¹ funded by the EPA indicates that Ireland's resource consumption in 2010 was 25.5 tonnes per person, compared to the EU average of 16.5 tonnes. Irish annual expenditure on materials is estimated to be in the range of €40-€50 billion, between six and eight times greater than it is on energy. Funding for energy efficiency far exceeds that of resource efficiency. This imbalance needs to be examined and adjusted so that funding of waste prevention and resource efficiency activities across all sectors is increased to reflect the policy ambition to move towards a more sustainable economy.

Ireland recognises that national patterns of production and consumption must change, and has set out an institutional framework for sustainable development and the green economy titled *Our Sustainable Future*³². This high-level, cross-sectoral document recognises the challenge and the distance Ireland has to travel in making the shift to a new economic model. The commitments are clear: Ireland's economic recovery will centre on the development of a green economy and recognising the opportunities for investment and employment in emerging sectors including waste. The principles of resource efficiency, environment and habitat protection, and sustainable consumption must be the cornerstones of our future economy.

The approach of the waste strategy is to put into place coherent policy objectives and actions which align with European and national policy and support Ireland's move to an economy defined by higher resource efficiency and productivity. This economic shift involves rethinking from all sectors, and the waste and resource management sector has the potential to play a leading role. The core principles of the strategic approach are fundamental to this development (see **Figure 5-3**) and will ensure that our wastes are managed better, in keeping with the wider vision of the circular economy.

The **waste management hierarchy** will remain a core principle of the waste strategy for the region. The hierarchy embodies the wider thinking of the circular economy and provides an order of treatment allowing policy makers and regulators to make clear decisions. **Figure 5-2** shows a circular economy system for the management of material resources and wastes. The five steps of the hierarchy are identifiable within this system and the long-term focus for the region will be to shift the balance of resource management into sustainable cycles of maintenance, reuse, refurbishment and recycling. To start this journey the local authorities are setting out a strong framework for prevention, reuse and resource efficiency activities as part of this plan. Future economic and regulatory instruments must be designed to support these tiers of the hierarchy. The move away from landfill is well advanced and additional systems, infrastructure and innovative solutions are required to progress waste and material flows in keeping with the hierarchy.

For the duration of the plan, continued progress in recycling key waste streams, such as municipal waste, will be a measure of success. **Source-segregation** is a well-established practice in the waste

³¹ Roadmap for a National Resource Efficiency Plan for Ireland, EPA, 2014.

³² Our Sustainable Future, A Framework for Sustainable Development, DECLG, 2012.

sector and local authorities recognise its value in recapturing resources, creating new material flow systems and developing opportunities for enterprises in the sector. Local authorities will continue to implement actions which support this principle, and are focused on harmonising kerbside systems in the region and encouraging the segregated collection of organic wastes from householders and businesses. The full potential of the kerbside system is not being realised, and local authorities will work with industry and other stakeholders to address this.

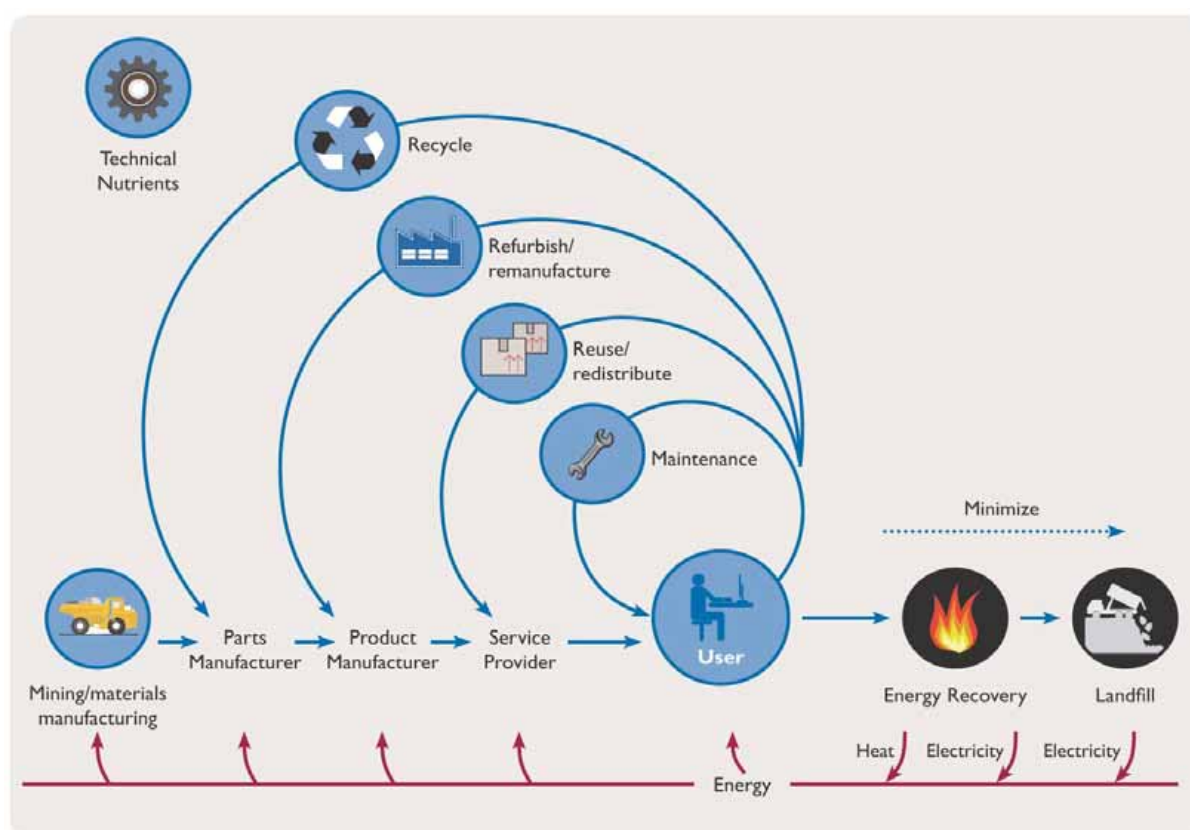


Figure 5-2 Material Resource and Waste Flows in a Circular Economy³³

This strategy will continue to adopt and implement actions which support the **polluter pays principle** whereby the real costs of generating waste must be borne by the waste producer and waste holder. This includes illegal activities such as fly tipping and backyard burning, the cost of which is being unfairly borne by compliant citizens and businesses. Local authorities recognise that the principle is currently not being applied in line with the waste management hierarchy, with inappropriate and inequitable collection and facility authorisation cost systems in place. The incorporation of this principle into the strategy will see local authorities address these issues through regulatory and enforcement actions aimed at levelling the playing field for households, businesses and operators.

Substantial waste infrastructure development has been authorised and built in the region and across Ireland over the past 15 years. The extent of available treatment capacity has been unknown across the regions as local authorities, the EPA and An Bord Pleanála all approve facilities in the absence of a single data source which tracks the treatment capacity of each authorised facility. This uncoordinated approach is no longer satisfactory and work has commenced on a system which will record the available treatment capacity at national and regional levels. The strategic approach over the plan will be to deliver **balanced and sustainable infrastructure** for the treatment of wastes in

³³ This modified figure has been developed from an image prepared by the Ellen MacArthur Foundation.

line with the strategic vision and waste hierarchy. Local authorities will take on board both the appropriate scale of authorisations and the proposed location of new developments for all facilities, in particular activities which require a permit or certificate of registration. Infrastructure of a certain type and scale will be assessed on the basis of regional and national needs.

The delivery of a balanced and sustainable infrastructure in the waste sector will be critical to meeting Ireland's climate change commitments in terms of both mitigation and adaption. The recently published Climate Action and Low Carbon Development Bill 2015 aims to transition Ireland to a low carbon, climate resilient and environmentally sustainable economy. If it is enacted the Government will be required to prepare a National Mitigation Plan which will specify the policy measures required to manage greenhouse gas emissions.

In 2013 greenhouse gas emissions from the waste sector accounted for 2.5% of total national emissions, equating to 1.466 Mt of CO_{2eq}. Annual emissions from the waste sector are largely stable since 1990 but Ireland needs to reduce emissions by 20% by 2020 (followed by a 40% cut by 2030 and an 80% cut by 2050). In this regard the development of treatment infrastructure, which contributes to ongoing mitigation activities in the sector such as the diversion of biodegradable waste from landfill and capture and energy recovery of landfill gas, should continue.

The principles of **self-sufficiency and proximity** are part of the strategic approach which underpins the waste plan. For residual, non-hazardous waste the aim of government policy is to develop indigenous recovery infrastructure to replace landfill, and for the State to become self-sufficient where possible. Local authorities support this objective and will work towards this national goal by implementing practical actions. The proximity principle will be applied in the context of the scale of proposed facilities.

In terms of addressing climate change, the principles of self-sufficiency and proximity in the waste sector will aid in the reduction of transport-related greenhouse gas emissions for the State. Any future national mitigation strategy for the waste sector should be developed with a view to enabling not only emissions reductions in the waste sector but also potential mitigation in other sectors such as energy and transport.

A fundamental principle of the strategic approach is **opportunity and growth** for existing industry operators, social enterprises, secondary material enterprises and start-up companies. The local authorities believe the sector has the potential to grow, to design innovative services and solutions and to create lasting employment. The local authorities will work with all stakeholders in support of new opportunities, and new implementation structures are proposed to make this a reality.

The need for effective **cooperation** is fundamental to the success (or failure) of the strategic approach underpinning the plan. No single stakeholder can or will implement successfully the policies and actions of the plan. The local authorities have a new identity and role in the waste sector, as outlined in **Chapter 17**, and will focus on delivering the actions for which they have lead responsibility. Strong working relationships with industry operators are also needed for the sector to progress and the strategic vision to become a reality. The local authorities will adopt an open and consultative approach on all relevant matters to deliver effective and practical solutions.



Figure 5-3 Strategic Principles of the Plan

The final principle of the strategic approach is to **protect** the environment of the region and its citizens from the harmful impacts of managing wastes. Environmental issues and impacts will be integrated into all decision making and assessment and will help to ensure that actions and developments are sustainable. The local authorities have been guided by the strategic environmental assessment and appropriate assessment in the preparation of the plan and will retain a focus on environmental and community protection throughout the period.

5.3 STRATEGIC OBJECTIVES

The strategic objectives for the plan represent the local authorities' statement of intent, embodying the strategic approach previously described. The strategic objectives are expanded further in **Chapter 19** of the document into more defined policy objectives and measurable actions.

5.3.1 Policy & Legislation

Implementing waste management legislation and policy measures will continue to be an important part of the local authorities' responsibilities under the waste plan. The waste plan covers a broad scope of waste streams, with the local authorities having regulatory obligations for many of these. Mandatory performance targets and policy measures are applicable during the plan period and the local authorities will play a key part in helping to deliver these. The local authorities will be committed to their legislative obligations as well as implementing other policy and guidance actions.

The region will implement EU and national waste and related environmental policy, legislation, guidance and codes of practice to improve management of material resources and wastes.

5.3.2 Prevention

Developing and implementing waste prevention measures will be a priority for local authorities as part of the waste plan strategy. Tackling and breaking the links between economic growth and resource use is a real challenge for households, businesses and public bodies in the region. Lasting results require significant behavioural changes. The local authorities in the region will continue to build on prevention initiatives, focusing on those which have been shown to realise an effective change in behaviour. The strategic objective for the plan is as follows:

Prioritise waste prevention through behavioural change activities to decouple economic growth and resource use.

5.3.3 Resource Efficiency

Ireland's resource efficiency and productivity need to be improved – more value needs to be extracted from the resources we use and currently discard. Over the duration of the waste plan the local authorities will be focused on adding value to waste managed in the region and propose to implement a series of actions that contribute to the sector becoming more resource efficient and less wasteful. The local authorities believe that many opportunities are available to the sector, and the strategic objective reflects this view.

The region will encourage the transition from a waste management economy to a green circular economy to enhance employment and increase the value recovery and recirculation of resources.

5.3.4 Coordination

The restructured waste regions will present challenges and opportunities for the local authorities and regional lead authorities. The resources available to local authorities to deliver waste plan actions are limited and coordinating activities across the region will help to get the most from the resources available. The local authorities in the region will aim to foster strong working relationships with each other, private waste operators and other key stakeholders. The strategic objective for the local authorities is to:

Coordinate the activities of the regions and work with relevant stakeholders to ensure the effective implementation of objectives.

5.3.5 Infrastructure Planning

Ireland and the waste regions require the right balance of waste infrastructure to manage waste in a manner which optimises the value of the material and future market opportunities. Over the duration of the plan, the local authorities will communicate with each other on the authorisation of waste treatment facilities in the region so that a consistent approach to standards and regulations can be implemented. A similar attitude of engagement will be followed by the regional lead authorities between themselves and bodies such as An Bord Pleanála for large-scale waste treatment infrastructure.

The region will promote sustainable waste management treatment in keeping with the waste hierarchy and the move towards a circular economy and greater self sufficiency.

5.3.6 Enforcement & Regulations

For many of the waste streams covered in the waste plan, local authorities are tasked with enforcing and regulating the system of management. The role of local authorities in this area is expected to grow over the plan period, requiring effective coordination and assignment of resources. The strategic objective set by the local authorities reflects the need for resource and knowledge sharing. This strategic objective and associated policy actions will be the responsibility of the lead authority for waste enforcement.

The region will Implement a consistent and coordinated system for the regulation and enforcement of waste activities in cooperation with other environmental regulators and enforcement bodies.

5.3.7 Protection

Protecting the environment and health of citizens in the region from potential adverse impacts resulting from waste management activities is a key responsibility of the local authorities. The location of waste facilities can help to address many of their potential impacts, and local authorities will aim to improve guidance in this area. The strategic objective has been agreed by the local authorities to:

Apply the relevant environmental and planning legislation to waste activities in order to protect the environment, in particular European sites, and human health against adverse impacts of waste generated.

5.3.8 Other Wastes

The scope of the waste plan is broad, and the local authorities recognise that there are many minor waste streams generated in the region whose management also needs to be taken into consideration. Many of these waste streams do not have a specific statutory instrument in place to govern their management. The local authorities propose to set out policy objectives and actions in this area to tackle certain minor streams and, where possible, to create a better system for their management. The strategic objective is as follows:

The region will establish policy measures for other waste streams not subject to EU and national waste management performance targets.

5.4 TARGETS OVER THE PLAN PERIOD

In considering the designation of headline targets for the plan the local authorities have examined mandatory national and European targets, proposed targets and policy ambitions.

5.4.1 Mandatory Targets

The plan will run over a six year period, with a revised or replacement plan expected to follow in 2021. During the lifetime of the plan several mandatory target deadlines will apply to Ireland. Each of these targets has been reviewed by the local authorities, who are committed to contributing to their achievement within the designated timeframe. A summary of these targets is provided in **Table 5-1**.

Ireland is well placed to achieve a number of these targets. The WFD requires Member States to achieve a preparing for reuse and recycling rate of 50% for paper, metal, plastics and glass from households and possibly from other similar origins by 2020. The latest available data shows that Ireland is on track to achieve this, with a rate of 45% recorded in 2012. The Directive also requires a 70% reuse, recycling and materials recovery rate target of non-soil and stone construction and demolition waste to be achieved by 2020. The State is currently exceeding this target, with a rate of 97% recorded in 2012.

The final BMW to landfill target will need to be met by July 2016. By this date the maximum quantity allowed for disposal in the State is set at 427,000 tonnes. Provisional data for 2013 indicates that this future target will be met, as an estimated 381,000 tonnes of BMW was landfilled in 2013.

The mandatory targets for two other streams, ELVs and batteries and accumulators (portable batteries only), are also reached during the plan period. The achievement of both of these targets by the statutory timelines is at risk and is not expected to be met.

Table 5-1: Mandatory Targets over the Plan Period

Waste Stream	Preparing for Reuse and Recycling Target	Timelines
Paper, Glass, Metal and Plastics of the Household Stream and/or Similar Wastes	50%	2020
	Preparing for Reuse, Recycling and Material Recovery Target	
Construction & Demolition Wastes (excluding soil and stones)	70%	2020
	Maximum Quantity of BMW to Landfill Target	
Biodegradable municipal waste	427,000 tonnes	July 2016
	Reuse and Recovery Target	
End of Life Vehicles	95%	January 2015
	Reuse and Recycling Target	
End of Life Vehicles	85%	January 2015
	Collection Rate Target	
Batteries and Accumulators	45%	September 2016
	Recovery and Recycling Target	
WEEE	Varies depending on the category of WEEE ³⁴	August 2015

In relation to ELVs there is a need to improve the level of dismantling of non-metallic components prior to shredding and the level of post-shredder processing to extract recyclable materials such as metals and plastics. The authorisation of ATFs in the region is primarily a local authority responsibility and in response to improving the reuse and recovery rates, local authorities will require operators to provide enhanced processing techniques as part of their ongoing authorisation. The current rate of collection for waste batteries and accumulators is 28%. Local authorities in the region will commit to working with producer responsibility operators to increase the awareness and collection of this stream during the duration of the plan.

5.4.2 Performance Targets

The aim of the local authorities is to progress the management of materials, resources and waste in the region in line with the plan's strategic vision. Increases in material recycling, resource efficiency and prevention are goals for the region. Performance targets, in addition to mandatory national targets, are proposed for the plan to provide a benchmark that local authorities can work together to meet. The proposed targets are specific and represent a quantifiable level to be obtained. As part of their annual reporting, local authorities will monitor and quantify progress towards the meeting of these targets.

The targets are focused on the activities and waste streams in which local authorities have a strong role and as a consequence have more influence on the outcome. The performance targets have been discussed by the lead authorities in the three waste regions and have been agreed for each region. This coordinated approach will ensure there is consistency for operators in the waste market irrespective of their area of operation. It is also hoped that it will facilitate cooperation between the DECLG, the EPA and local authorities in resolving market issues which are acting as a barrier to the targets being achieved.

³⁴ European Union (Waste Electrical and Electronic Equipment) Regulations 2014, S.I. No 149 of 2014.

The prevention of waste and the decoupling of resource use from economic growth is a key component of the strategic vision and objectives of the waste plan. Promoting and implementing the challenge of preventing waste in the face of resurgent national economic activity requires continuous attention and resources. From 2007 to 2012 the amount of household waste generated per capita in Ireland declined from 0.41 to 0.34 tonnes. From a waste prevention perspective this is a welcome trend, and many factors are contributing to it. Prevention activities are playing a part, although the evidence indicates that the primary influence is a significant contraction in the national economy resulting in a significant decrease in household disposable income over the period. The concern is the potential for waste to grow as economic activity across all sectors increases.

Plan Target

1% Reduction Per Annum in the Quantity of Household Waste Generated per capita over the period of the Plan

The focus of this target is on household waste, reflecting the important role local authorities have in preventing and managing the household waste stream. Prevention targets for other sectors, such as construction and industrial sectors, are also valid but it is suggested that these be looked at as part of Ireland's overall approach to implementing a coordinated resource efficiency programme. The 1% reduction per annum aims to focus local authority activities in the area of prevention. This is the first time a waste prevention target has been formalised in Ireland and its implementation presents both an opportunity and a challenge. The proposed reduction is measurable and will be reported on annually, and if achieved will deliver a 7% drop in household waste generated over the duration of the plan. The inclusion of a prevention target demonstrates commitment in this area and is in line with prevention programmes in leading Member States.

Municipal waste is a key waste stream for Ireland and the prevention of waste arisings in this stream is an ongoing challenge. Ireland has made steady progress in terms of improving the management of this stream, with recycling rates increasing from less than 5% in the late 1990s to 40% by the end of 2012. The data shows that continued growth in this area will rely on high-quality presentation and collection of dry recyclables coupled with a significant increase in the participation and capture rates of organic waste. The progressive roll-out of the brown bin will help, although this must be supported by continuous awareness, education and enforcement activities.

Plan Target

Achieve a Recycling Rate of 50% of Managed Municipal Waste by 2020

The local authorities along with private waste collectors play an important role in the management of municipal waste. The proposed target mirrors that of the WFD although it is broader, encompassing material recycling and composting (biological treatment) rates. The aim is to maximise the diversion and recycling potential of the household and commercial kerbside source segregated collection systems. This target also encompasses preparing for reuse activities, which

have the potential to become an important part of the material resource sector. Within the timeframe of the plan the target is a realistic one, reflecting the resources and finances available to local authorities to contribute towards its achievement. The target if achieved will reflect the ambition of the sector to move towards a circular economy and will be a stepping stone for further progress.

Waste management in Ireland has moved away from landfill, and in 2012 the rate of disposal reached its lowest level to date of 41%. The landfill levy has been a key driver in this transformation, artificially inflating the disposal price in favour of environmentally preferred treatments. The number of landfills operating in Ireland has dropped to six, with one facility (Powerstown, Carlow) operating in the SR in early 2015. The regions are proposing to build on this treatment shift and respond to the government's policy's call for the elimination of landfill.

The target is proposed in direct response to European and national policy. The landfills in Ireland are licensed by the EPA, which sets conditions governing the treatment activities, environmental controls, aftercare and associated financial arrangements. Planning permission approvals for landfills also impose conditions addressing various other issues such as the lifespan of the site. The forced closure of a landfill is not within the remit of a local authority unless it is the operator of the site. This aside, local authorities can influence the movement of waste through the prescribed conditions of waste collection permits.



Under primary legislation the local authorities have statutory responsibilities to ensure that waste undergoes recovery operations and they must take appropriate measures to establish an integrated and adequate network of installations for the recovery of mixed municipal wastes.

** Unprocessed residual waste means residual municipal waste collected at kerbside or deposited at landfills/ CA sites/ transfer stations that has not undergone appropriate treatment through physical, biological, chemical or thermal processes, including sorting.*

National policy is similarly direct, stating that a key objective of the plans is to ensure there is sufficient waste management infrastructure to manage municipal waste arising within the State. The clear preference is for the treatment of Ireland's residual waste to be undertaken at Irish facilities to the benefit of Irish businesses, citizens and the economy as a whole. In response to these requirements local authorities must act and continue to move waste to recovery outlets, preferably within the State, and make efforts to address the growing trend of exporting residual wastes.

The target proposes to eliminate the direct disposal of municipal waste to landfill by 2016. This timeline is in keeping with other related statutory commitments such as the deadline for the completion of the household brown bin collection roll-out and reduced landfilling of BMW. The implementation of this target will help to ensure that all residual municipal waste from 2016 onwards is directed to indigenous pre-treatment facilities or other recovery outlets for processing and treatment.

5.5 GOALS FOR 2030

The latest national waste policy has set out measures and actions to be taken and delivered up to 2030. Local authorities recognise that within the period of the current plan there is a limited amount which can be achieved. There is a need to think beyond the end of the plan and consider the long-term outcome.

In response to this, local authorities have set out long-term goals in the areas of prevention, recycling and disposal, mirroring the performance targets which have been agreed. The targets take their lead from the European Commission's policy agenda on circular economy and the ambition for recycling rates to increase across all Member States and an end to the practice of landfilling to be realised. A preparing for reuse and recycling target of 60–70%, equivalent to the current best practice across Europe, has been set by the authorities as the benchmark for the regions and Ireland to aim for.

Future Targets to 2030
Absolute decoupling of household waste from economic growth and disposable income
Preparing for reuse and recycling rate of 60-70% ³⁵ of municipal waste by the end of 2030
Reduce and where possible eliminate landfilling of all major waste streams including municipal, industrial and construction and demolition wastes in favour of the recovery of residual wastes

Economic growth is the most significant driver in terms of waste generation, and the absolute decoupling of this from household waste generation will be a significant challenge requiring fundamental changes in behaviour by householders across the State. The policy actions being taken over the duration of this plan are the first steps towards a much bigger goal.

In terms of disposal, the ambition of local authorities is to cease landfilling activities for all major waste streams by 2030. The preferred treatment method for non-recyclable residual waste will be recovery and the local authorities will work with other stakeholders towards this outcome. This transition reflects the ambition of the authorities to make better use of and extract the most value from products, material resources and waste.

Achieving these long-term goals will require the cooperation of central government and cross-sectoral support from public authorities and private operators in the industry.

³⁵ Discussions are ongoing between European Member States regarding the proposed mandatory recycling rate target, which is expected to be within this range.

6 REGIONAL PROFILE

This chapter includes a general description of the SR, including relevant topographical, geological, hydrological and hydrogeological features.

6.1 GENERAL DESCRIPTION OF THE AREA

The Southern Waste Management Region consists of the administrative areas of Carlow, Cork, Clare, Kerry, Kilkenny, Tipperary and Wexford County Councils, Limerick City and County Council, Waterford City and County Council and Cork City Council. The land area of the region is approximately 29,589 km², which equates to about 42% of the total land area of the country. Inland, the region is bounded to the north by counties Wicklow, Kildare, Laois, Offaly and Galway. Coastal borders to the east, south and west comprise the Irish Sea, St George's Channel, the Celtic Sea and the Atlantic Ocean respectively. The region's coastline features significant fishing areas and associated fishing ports and marinas and on-land fish processing facilities.

The region is rich in terms of its coastline and many off-coast islands, scenic landscape and waterways, all of which create an area of natural beauty which is enhanced by the presence of many nature reserves. For these reasons and others, such as attractive urban features and numerous heritage sites, tourism has become a major economic growth sector in the region.

The region is also a stronghold of modern industry, including recognised hubs for particular sectors. For example, albeit that several pharmaceutical companies are located in different counties, Cork has one of the largest concentrations of pharmaceutical industries in the world. Medical device manufacturing and general healthcare industries provide strong employment throughout the region, such as in Limerick, Clare, Tipperary and Waterford. Computer and electronics manufacturing also feature strongly, including plants belonging to some of the world leaders in that field. In parallel with industrial activity, the strong agriculture in the region means that national and international food and drinks brands have operations based in the region, and the general agri-food industry promises to strengthen even further into the near future.

6.2 POPULATION

The population of the region is 1,541,439 (CSO Census 2011), which equates to 34% of the national population and represents an increase of 98,443 or 6.8% since the previous census in 2006. The total number of permanent private households in the region is 558,405, which equates to 34% of all households nationally (CSO Census 2011) giving an average occupancy of 2.7 persons per household. A summary of population and household data is presented in **Table 6-1**.

6.2.1 Urban/Rural Population Distribution

The extent to which the population of any geographical region is concentrated in urban areas impacts greatly upon the cost and efficiency of the waste management infrastructure. It is also a key factor in determining which waste management techniques may be most effectively employed in a particular area. In rural areas, housing tends to be dispersed resulting in higher waste transport costs and, in some cases, difficulties accessing houses on minor roads.

Table 6-1: Population and Household Figures, CSO Census 2006–2011

Local Authority	2006 Population	2011 Population	% Change	2006 Private Households	2011 Private Households	% Change
Carlow	50,349	54,612	8.5	17,074	19,365	13.42
Clare	110,950	117,196	5.6	38,026	42,534	11.86
Cork City	119,418	119,230	-0.2	43,871	47,110	7.38
Cork County	361,877	399,802	10.5	122,671	140,445	14.49
Kerry	139,835	145,502	4.1	47,743	53,088	11.20
Kilkenny	87,558	95,419	9.0	29,478	33,583	13.93
Limerick	184,055	191,809	4.2	63,956	69,421	8.54
Tipperary	149,244	158,754	6.4	52,087	58,275	11.88
Waterford	107,961	113,795	5.4	38,444	42,239	9.87
Wexford	131,749	145,320	10.3	45,096	52,345	16.07
Totals	1,442,996	1,541,439	6.8	498,446	558,405	12.03

In rural areas, housing tends to be dispersed, resulting in higher waste transport costs and, in some cases, difficulties accessing houses on minor roads. A summary of urban and rural population distribution is presented in **Table 6-2**.

Table 6-2: Urban/Rural Population Distribution, Census 2006-2011

Local Authority	2006 Urban	2006 Rural	2011 Urban	2011 Rural
Carlow	24,306	26,043	26,719	27,893
Clare	43,391	67,559	46,381	70,815
Cork City	119,418	0	119,230	0
Cork County	176,268	185,609	204,532	195,270
Kerry	49,233	90,602	51,479	94,023
Kilkenny	30,942	56,616	35,329	60,090
Limerick	95,613	88,442	103,399	88,410
Tipperary	58,128	91,116	65,878	92,876
Waterford	66,075	41,886	70,647	43,148
Wexford	45,612	86,137	55,611	89,709
Totals	708,986	734,010	779,205	762,234
% Split	49.13	50.87	50.55	49.45

Urban / rural population for the region is split 51% / 49%. Counties Carlow (51%), Clare (60%), Kerry (65%), Kilkenny (63%), Tipperary (59%) and Wexford (62%) all have more rural than urban population numbers.

Lower population distribution in rural areas means that this can bear negatively on the efficiency of kerbside domestic waste collection systems. It is also more difficult, time consuming and expensive to engage with rural communities on education and awareness programmes.

Even where rural households are serviced by good quality roads, the low density of the housing means greater environmental impact by servicing of these households with waste collection vehicles. Furthermore, as in many rural areas, the local tertiary roads were never designed to take larger modern dual or triple compartment waste vehicles. Where local topography further challenges accessibility, effective waste collection becomes a greater issue and for waste management to function, other waste infrastructure must play its part, such as the adequate availability of civic amenity centres and bring bank facilities- these aspects have been considered in the waste management planning process.

6.2.2 Town Centres

There are four cities in the SR: Cork City with a population of 119,230, Limerick City with a population of 57,106, Kilkenny City with a population of 24,423 and Waterford City with a population of 46,732 (CSO Census 2011). The distribution of major urban centres is shown in **Figure 6-1**.

6.3 TOPOGRAPHY

The topography of the SR includes lowland areas with rich agricultural land, peatlands, forest, mountainous areas and extensive coastline. The region features the McGillicuddy Reeks in Kerry, with Carrauntoohil (1,038 m) as Ireland's highest peak through to County Carlow, which forms part of the great plain of Ireland. County Clare contains the Burren Limestone, while Lough Derg and the Shannon River and Estuary strongly influence the topography in the north west of the region. The topography of Limerick County and north Cork mainly comprises fertile lowland, with mountain ranges such as the Ballyhouras to the east.

To the south, Cork is characterised by river valleys and ridges which run east to west – the main rivers are the Blackwater, Bride, Lee and Bandon. In the west Cork area, the mountains include the Boggeragh, Derrynasagart, Shehy and Caha Mountains.

Tipperary features agricultural lowlands and higher areas, the most significant of which are the Galtee Mountains (Galtee Mór 919 m) and the Silvermine Mountains to the north of the county, and the renowned Slievenamon (721 m) near Clonmel. In the south east of the region, the main mountain areas are the Knockmealdowns and the Comeraghs in Tipperary and Waterford. Also to the south east is the Leinster Massif, which occupies the zone between the River Slaney and the River Barrow, and includes the Blackstairs Mountains, the highest peak of which is Mount Leinster at 796 m. The general topography of the SR is presented in **Figure 6-2**.

Several islands lie off the region's coastline – the range includes Scatterry Island off Clare, Limerick's Aughinish Island and Foynes Island, and further south Kerry's Blaskets, Valentia Island and the Skelligs. Off West Cork are several inhabited islands – Dursey Island, Bere Island near Castletownbere and Bantry Bay's Whiddy Island (where Ireland's only oil terminal is located). The group of Carbery Islands of Schull and Baltimore include Cape Clear, Sherkin and Heir. In Cork Harbour there are a number of named islands, which are connected to the mainland – all except Spike Island. A number of islands also lie off the Wexford coastline, such as Beggenis Island, Saltee Islands and Tuskar Rock.

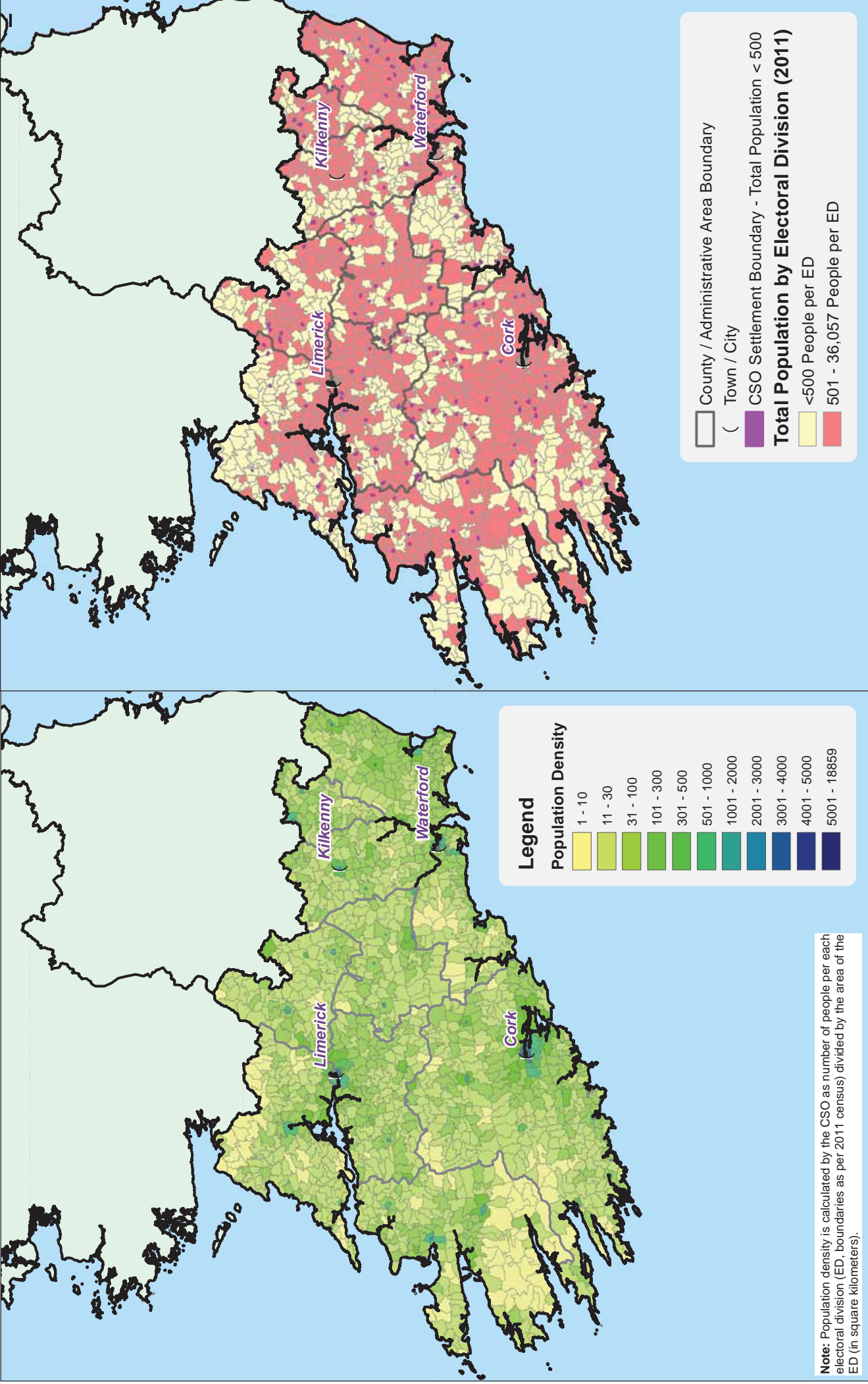
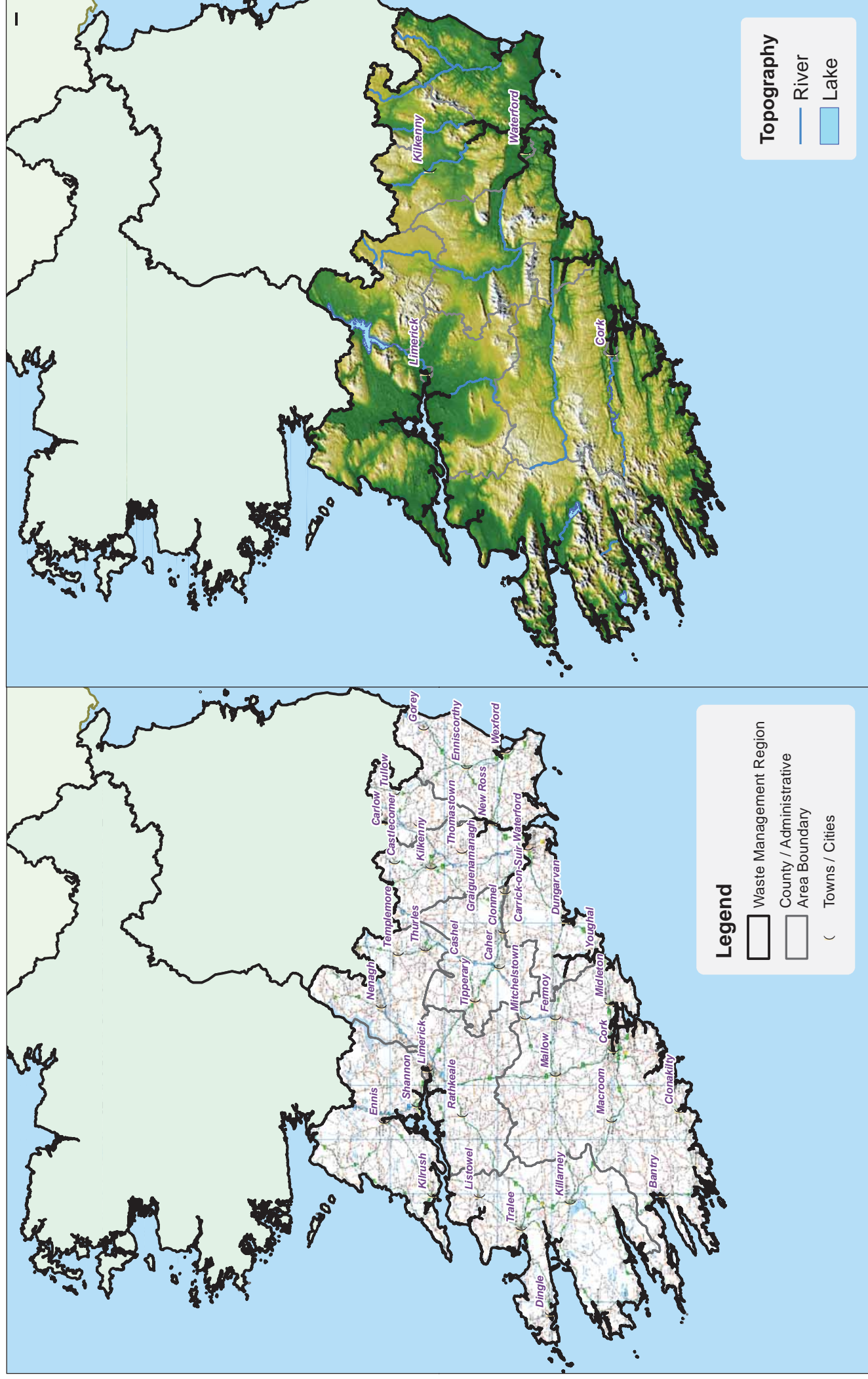


Figure 6-1 Population Density & Distribution in the Southern Region



6.4 LAND USE

Land use in the SR is predominantly agricultural. The Quarterly National Household Survey (QNHS) for 2014 Q2 shows 8.7% for the region employed in agriculture, forestry and fishing, compared with 6.6% in 2011 Q2 (CSO QNHS). The size of the average farm holding in the region is 40.13 hectares (CSO Census of Agriculture 2010). Dairy farming and cattle breeding dominate the agricultural economy while pig and poultry rearing is declining.

The main sources of waste streams arising from dairy and cattle breeding include generation of slurries and silage effluent, and further on in the supply chain through wastes arising from processing plants and product finishing and distribution. The dairy sector is set to further expand at a significant rate with the lifting of the milk quota in 2015, which is expected to lead to more intensive dairy farming.

There are 331,070 hectares of land in the region under forestry which represents 45.2% of total forestry in the State (National Forestry Inventory 2012). This equates to 11.04% of forestation in the region which compares with 10.5% nationally. The region also contains peatlands and mountainous areas - most of the latter provides commonage grazing areas for sheep farming. Types of agricultural land use are demonstrated in **Figure 6-3**.

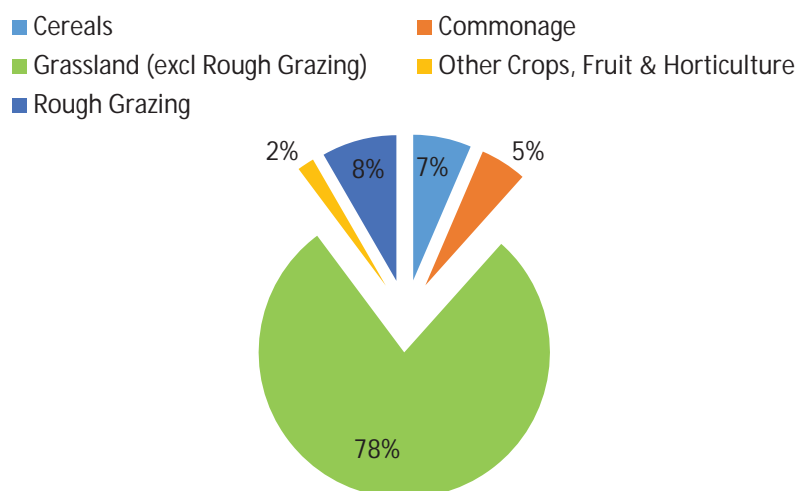


Figure 6-3 Categories of Agricultural Land Use – Southern Region

6.4.1 Land Use Restrictions

The region contains many Special Areas of Conservation (SACs) as designated under the EU Habitats Directive, and Special Protection Areas (SPAs) under the EU Birds Directive. Management and preservation of SACs and SPAs are under the direction of the National Parks and Wildlife Service. There are also several designated National Heritage Areas (NHAs) in the region. Some areas in the region contain rare and vulnerable habitats and wildlife. These include parts of the catchment areas of the Rivers Shannon, Blackwater, Bandon, Lee, Owenboy, Bride, Maine, Flask, Nore, Suir, Slaney and Barrow rivers as well as their estuaries. The location of environmentally sensitive and protected areas is shown in **Figure 6-4**.

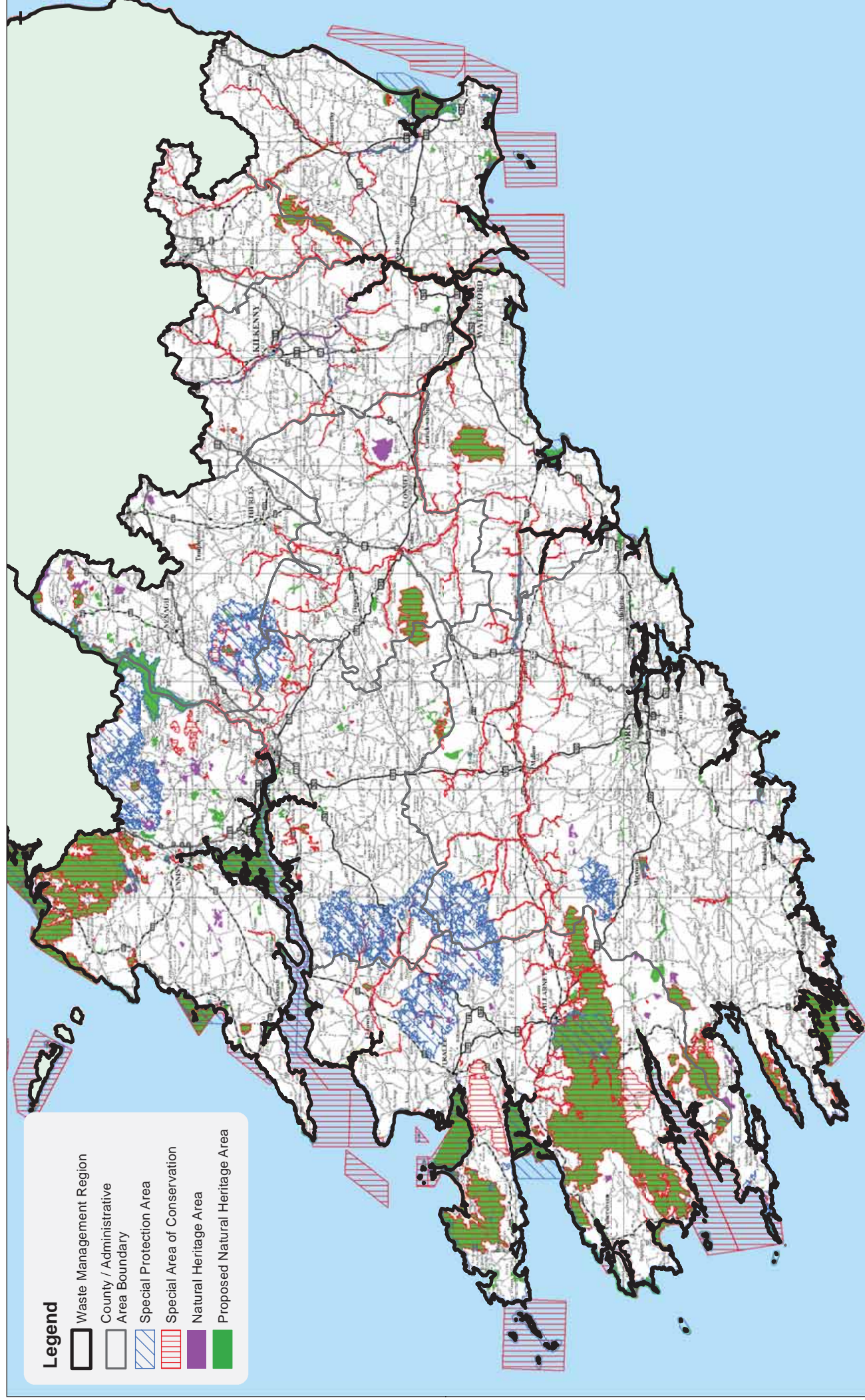


Figure 6-4 Environmentally Sensitive and Protected Areas

6.5 GEOLOGY

The geology of the region varies widely: a basic description (Johnston, 2001) is outlined below.

The Southern Hill Vale Province, which covers Clare, North Kerry, Limerick, Tipperary and Kilkenny, is largely plain with shale and slate mountains or shale plateaux often capped with raised bog.

The South-Eastern Caledonian Province covers Wexford and consists of a granite mass in the form of mountains in North Wexford. The top layer has now been completely eroded away (except around the edges). On top, the mass mountains contain blanket bog which is suitable for extensive sheep-rearing but is sparsely populated. The edges of the region contain steep, jagged slopes. In south Wexford, this granite block continues beneath the plain, emerging occasionally as quartzitic hills.

The Munster Ridge and Valley Province covers Waterford, Cork and mid and south Kerry. Differential erosion has produced parallel ridges of sandstone mountains with fertile limestone floors between. Where the valleys of west Kerry and Cork have been flooded by the rising sea, deep rias with mountainous peninsulas have been formed. Rivers are forced to flow eastwards or westwards along these valleys. The points where they breach the ridges turn the rivers suddenly south, a characteristic feature of this region of Ireland.

Overburden (soil) deposits vary in composition and thickness throughout the region, such as glacial till in Clare and Limerick, and the Brown Podzolic soil type in Cork. Acid Brown Earths cover much of the South East, with some localised gleys. Bog and blanket peat feature also throughout the region, especially in parts of Cork and Kerry.

6.6 HYDROGEOLOGY

In general the dominant aquifer type is locally important bedrock aquifer, followed by regionally important bedrock aquifer generally occurring in the middle of the region. Poor aquifers are generally found in the eastern part of the region around Wexford, Kilkenny, and also in North Tipperary and the western coastal portions of Cork and Kerry. Gravel aquifers are much smaller in number and extent, covering only about 1,221 km² nationally. The gravel aquifers in the Southern Region are classified as locally and regionally important.

Groundwater is a major natural resource in the Republic of Ireland and provides approximately 20–25% of the drinking water supplies for the entire country. The Geological Survey of Ireland (GSI) classifies the groundwater resource according to vulnerability, i.e. the hydrogeological characteristics intrinsic to a groundwater body which determine how easily that water body may be contaminated through human activities. For the Southern Region, groundwater vulnerability exhibits a range of ratings classified as Low risk up to Moderate, High, Extreme and 'X', where the rock is exposed near the surface or composed of karst. It is estimated that there are over 8,200 groundwater wells and springs in the region. Of these, approximately 243 are at the appropriate abstraction yield to provide for potable water supply.

A fuller description of the elements of the bedrock geology of the counties in the region that are relevant to the hydrogeology, namely the rock composition (lithology) and the rock deformation that

occurred during the long geological history of the counties, can be found in the relevant Main Groundwater Protection Scheme Report (Geological Survey of Ireland).

6.7 HYDROLOGY

All Irish rivers have been allocated to one of 12 primary types, as outlined in Ireland's National Characterisation Summary Report under the Water Framework Directive. This Directive has led to the setting up of eight river basin district projects throughout the island of Ireland. Five River Basin Districts, each with its own Water Quality Management Plan, feature in the Southern Region, as follows:

- Shannon International River Basin District is the largest in Ireland and stretches from the source of the River Shannon in the Cuilcagh mountains in counties Cavan and Fermanagh to the tip of the Dingle peninsula in north Kerry;
- South Western River Basin District includes the rivers Bandon, Blackwater, Ilen, Inny, Laune, Lee and Maine and involves the counties of Cork, Kerry, Limerick, Tipperary and Waterford;
- Western River Basin District includes part of Clare;
- South Eastern River Basin District encompasses the Ownvarragh, Slaney and Wexford Harbour, Ballyteigue-Barrow, Barrow, Nore, Suir and Colligan-Mahon catchments and includes among others the counties of Carlow, Kilkenny, Tipperary, Wexford and Waterford; and
- Eastern River Basin District includes a small part of Wexford.

The lakes of note in the region include Lough Derg, which is the largest lake on the Shannon and links with Clare and Tipperary. Kerry features the Killarney Lakes, of which Lough Leane is the largest. In Cork there is the man-made lake of Inniscarra, as well as the lakes of west Cork including the Inchigeela Lakes, Lough Hyne, and Gougane Barra Lake which is the source of the River Lee. The surface waters in the region are shown in **Figure 6-2**.

6.8 ECONOMIC ACTIVITY

The main commercial trading centres within the region include Limerick, Cork, Kilkenny and Waterford Cities and the towns of Ennis, Tralee, Carlow, Wexford, Clonmel, Killarney, Cobh, Midleton, Mallow, Enniscorthy and Tramore. The main economic activities are general commerce and trade. The principal employment sectors (CSO Census 2011) for the SR are listed in **Table 6-3**.

Table 6-3: Employment by Economic Sector

Employment Sector	Number Employed
Commerce & Trade	129,245
Manufacturing	76,057
Healthcare & Social Work Activities	64,059
Education	55,128
Agriculture, Forestry and Fishing	44,605
Accommodation and Food Service	36,413
Public Administration and Defence	32,416

Employment Sector	Number Employed
Construction	31,389
Other	120,961

The main employment sectors for the SR are presented in **Figure 6-5**.

6.8.1 Integrated Pollution Control Sector Companies

A system of Integrated Pollution Prevention and Control (IPPC) licensing applies to certain industrial sectors in Ireland. The licensing procedure is administered by the EPA. Progressively various industrial production scenarios are being included in this system. A licence will only be issued on the basis that environmental impact including waste is minimised, and often the applicant will be required to undertake a complete environmental audit or implement a complete environmental management system. Many IPPC/IED companies treat waste that they generate on-site as a condition of their licence. The location of IPPC licensed facilities is demonstrated in **Figure 6-6**.

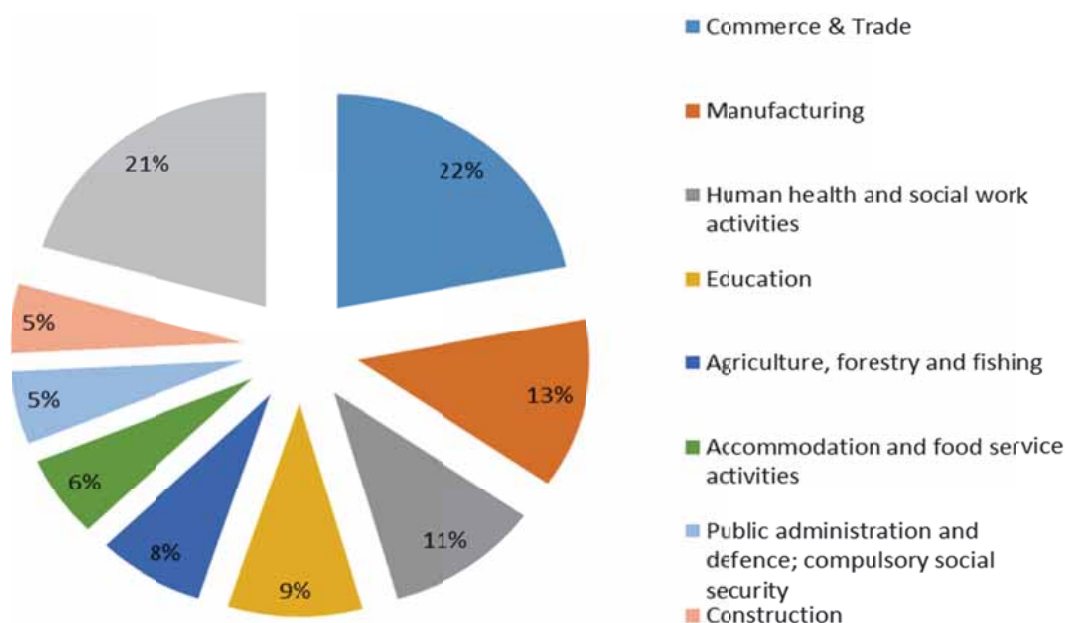


Figure 6-5 Employment by Economic Sector for the Region

6.8.2 Mines

There are three licensed mines in Ireland, one of which is in the SR: Vedanta Lisheen Mining Ltd, Galmoy Mines Ltd and Roadstone Wood Ltd.

6.8.3 Extractive Industries

There are 471 extractive industry sites in the SR listed on the EPA Extractive Industries Register.

6.8.4 Tourism

Tourism has historically been a major industry in the region and is a major source of revenue and employment in the region. Different areas of the region form part of the *Wild Atlantic Way* and

Ireland's Ancient East - these tourism initiatives encourage people to visit the region's many amenities and heritage sites. Not only are there numerous famous visitor attractions, but the region also has an excellent transportation infrastructure linking Shannon and Cork international airports and regional airports in Kerry and Waterford to each county in the region. The annual spend by foreign tourists in the region was worth €1.01bn in 2012 (Fáilte Ireland 2013).

Many families take an annual holiday at a seaside resort, many of which are located along the coastline of the Southern Region. As well as local hotels and guesthouses, mobile home /caravan and camping parks are traditionally popular. Self catering accommodation particularly rented house, mobile homes/caravans are huge generators of food waste during the tourist season (results from LAPN Project 2014). There is therefore the ongoing need for education, awareness & support programme to make tourism more resource efficient.

Other forms of tourism within the Southern Region include visits to various heritage sites and areas of natural beauty. Each county has its own special features that all help to make the Southern Region attractive to visitors from the rest of Ireland to the region. Also on a more local basis, there is plenty of movement of people within the region or within each county in order to holiday or attend special events.

As numbers of holiday tourists are in general seasonal, this means an extra temporary demand on waste management infrastructure and these needs must be accommodated. Several local authorities have special provisions in place to help cater for the swell in demand for services such as waste collection, deposition at bring banks, as well also as providing increased litter management and public bins to cater for the larger numbers of people. In practice, there can be limited on-street segregation of waste in tourist facilities.

Another aspect, which can also be defined as tourism, is attendance at special festivals. To name but a few, these include Rose of Tralee, Kilkenny Arts Week, Cork Jazz Festival, Wexford Opera Festival, Willie Clancy Week in Miltown Malbay, Carlow Arts Festival, Clonmel's Junction Festival, Limerick's River Fest, Waterford Spraoi, as well as all the various other music festivals, Agricultural Shows and Fairs, and the annual St Patrick's Day festivals.

The Southern Region also features a strong interest in sporting fixtures, whether team sports, racing or athletics. As well as regular sports fixtures, the several large sports stadia in the region also host a number of annual open air concerts. Marathons and mini-marathons are now widely popular, attracting thousands as participants or onlookers.

At major festivals and events, public safety hinders segregation of waste. Minor festivals are generally volunteer led and it can be difficult to gain support for the development of waste prevention initiatives for these events.

These activities bring challenges in relation to waste management. For events with large numbers attending, there needs to be adequate provision of public receptacles to cater for the extra waste and litter generated, while there is also a peak in waste generated through accommodation and catering venues. Therefore the provision of waste infrastructure is considered so that it can provide sufficient waste management at these peak times, rather than for an average rate of waste generation.

6.9 TRANSPORT INFRASTRUCTURE

The road infrastructure in the region consists of a number of major corridors with an extensive network of minor roads. The pattern is mainly dictated by the topography of the region. Management and planning of the national road network is undertaken by the National Roads Authority and local authorities. The south eastern, south western and southern road corridors pass through the region and there are also a number of strategic road corridor links joining the major towns. The transportation networks are presented in **Figure 6-6**.

6.9.1 Roads

There are six motorways in the region namely M7, M8, M9, M11, M18 and the M20. There are fourteen national primary routes in the Region, namely the N10, N11, N18-25 and N27-30 shown in **Figure 6-6**.

The nineteen national secondary road network follows a more Regional pattern, linking the main towns and providing important tourism routes in the Region. They are the N52, N62, N65, N67-78, N80, N81, N85 and N86. The standard of secondary routes can be variable, but they are predominantly single carriageways without hard shoulder. The role of the secondary routes is crucial to the development of peripheral counties.

Although not as heavily trafficked as the national routes, the regional roads carry local and tourist traffic. The Region has a reasonably high density of public roadways serving more rural areas. These roads tend to lead into the local secondary and primary road hub in a radial manner. In isolated areas these roads can be narrow, such as the more restricted tertiary roads, meaning that modern day refuse collection trucks cannot easily travel down and turn on these roads. As a result, in some cases, travel time to collect a small amount of waste from a minor local road is potentially very high.

Because of the peripheral position of some counties such as Clare or Kerry and because of the local topography, some rural pockets within these counties are challenged by the type of existing local narrow winding road network. For the reasons listed in the preceding paragraph, this can pose restrictions in accessibility of waste collection vehicles to reach individual households or local enterprises based in such areas. Combined with a significant proportion of rural versus urban population, there is the risk that waste transport infrastructure can be limited to an extent in such areas - this is taken into account in this waste management plan.

6.9.2 Rail Network

The region is served by rail, with mainline routes passing through each of the Local Authority areas as per **Figure 6-6**.

There are intercity train services from Dublin to Limerick, Cork, Tralee, and Waterford that serve stations en route, such as Carlow and Kilkenny on the Dublin–Waterford line, and the Wexford–Dublin railway line as well as the temporarily closed Rosslare Port to Waterford line. In addition local services are provided on the Tralee–Mallow line, the Limerick–Nenagh–Ballybrophy line and the Waterford–Clonmel–Limerick Junction–Limerick line.

The intercity network has expanded on the Western Railway Corridor from Limerick railway station through Co. Clare, with new stations at Sixmilebridge, Ennis and Athenry, and Galway station. Service on the existing Cork–Cobh line is more frequent and there has been the reopening of the Middleton branch and an expansion of services on the Mallow–Cork line.

6.9.3 Air Transport

The region is served by four airports, namely Cork, Shannon, Kerry and Waterford Airports. Shannon Airport is one of Ireland's two international transatlantic airports and the industry which has grown around the airport provides significant employment for both Limerick and Clare. The continued development of Shannon and Cork international airports is vital to the development of the region, while Kerry and Waterford regional airports are important to provide convenient air transport for the surrounding economies.

6.9.4 Ports

Ireland is heavily dependent on ports for trade. While trade of non-transportable services has grown, most of Ireland's merchandise imports and exports of goods are transported by sea. The Competition Authority estimates that sea-borne freight accounts for 84% of Ireland's trade in volume and 62% in value terms. Many of Ireland's major exporting sectors – e.g. pharmaceuticals, chemicals and food – are heavily reliant on sea transport. It is widely recognised that Ireland's future economic success will depend on its ability to trade internationally.

The SR is well served by ports which highlight the long and strong trading links between the southern part of Ireland and our UK and European trading partners. Ports in the region include those listed in Table 6-4.

Table 6-4: List of Ports in the Southern Region

County	Ports
Cork	Cork, Cobh, Ringaskiddy, Tivoli, Kinsale, Castletownberehaven, Youghal
Clare	Kilrush, Moneypoint
Limerick	Limerick, Foynes
Kilkenny	Belview Port
Waterford	Waterford, Dungarvan, Dunmore East
Wexford	Rosslare, New Ross